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MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

STIMULATING TRANSPORT MANAGEMENT CONFERENCE

See Page 3

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CURRENT TOPICS

Successful Scarborough Conference

SUCCESSFUL, useful and enjoyable are the best adjectives with which to describe the Scarborough conference of the Public Transport Association. An account of the discussions on the papers we summarised last week appears on another page. At the outset the members were welcomed by the Mayor, Councillor John Kennedy, who struck an original note by referring to unorthodox means of urban transit such as suspended railways. In his opening remarks Mr. A. F. R. Carling, chairman, P.T.A., who was supported by his vice-chairmen, Messrs. R. E. Chisnell and R. J. Ellery, referred to the failure of public transport to receive the helping hand it needed in official quarters. The representatives of the passenger transport industry were not a pressure group of vested interests nor managers seeking the quiet life. Municipalities were not affected by the profit motive and companies were regulated by the Traffic Commissioners in respect of fares. But who else spoke for the 13,800 million passengers they carried? They spoke for the public users of transport when control of road space or of taxation came into the picture. They therefore asked for a cessation of taxation on public transport as if it were a luxury. Public transport was no private indulgence like wine or tobacco but a means of getting people to or from work. Mr. Carling thanked the secretariat of the P.T.A. for the work carried out during the year and also paid a tribute to the work for the association of Mr. Bernard Murphy, who was retiring from the council. The theme of the conference discussions rotated around the urgent need for larger buses and the defects of bonus schemes, but there was time for some relaxation, in the course of which the Maynard Cup was won by Messrs. Guy Lawson and C. S. Pearson; the runners-up in this golf competition were Messrs. C. H. Inkster and P. Cranmer.

Little Relief to Bus Operators

ALTHOUGH its application to do so was delayed until it was clearly necessary to increase fares, the Birmingham and Midland Motor Omnibus Co., Limited, carried an increase in costs for nearly eight months in 1958-59 before any increase in revenue could be obtained, Mr. John Spencer Wills, the chairman, told shareholders on May 24. In the 1959 Budget operators were granted a relatively small measure of relief in respect of road fund licences, although this was substantially offset by an increase in profits tax from 3 to 10 per cent. In the 1960 Budget the only change affecting the company was yet a further increase in profits tax from 10 to 12½ per cent. "Once again we were profoundly disappointed that the crippling tax of 200 per cent on our fuel was ignored, a tax which costs your company approximately £800,000 per annum. So far, unlike a number of operators, your company has maintained all its rural services, although in some cases at a reduced frequency, but many of these lose money so heavily that serious consideration," he said, "will have to be given to the question of the continuance of this policy." Further, the new wages and conditions agreed on May 9 would cost B.M.M.O. about £650,000 in a full year, or no less than 7½ per cent of the total costs, which were further aggravated by staff shortages. A happier feature was the conveyance of 45,000 passengers in the first six months on the London—Birmingham coaches via M1; these ran 160,000 miles. A further eight CM5 vehicles were being built to provide London—Birmingham duplications and the new 2½-hr. London—Coventry service now authorised. Another new vehicle would be a D10 underfloor-engined double-decker with front entrance and rear exit. As a whole B.M.M.O. buses and coaches ran 75,145,000 miles in 1959 and carried 371 million passengers, both figures being roundly ½ per cent more than in 1958. The small increase might indicate that some car owners were beginning to realise the frustration caused by road congestion and difficulty in finding somewhere to park.

Prices, Productivity and Incomes

SUCCESSOR to Lord Cohen as chairman of the Council on Prices, Productivity and Incomes is Lord Heyworth, who at 65 recently retired from the chairmanship of Unilever, Limited, which he had held for 18 years; he will be remembered by our readers for his lucid and comprehensive address to shareholders on the importance of transport in commerce and industry. In announcing the appointment in the House of Commons the Chancellor of the Exchequer said that the Council was being reconstituted. Sir Harold Howitt, a member from the beginning, who retires at his own request, is succeeded by Sir Harold Emerson, former Permanent Secretary to the Ministry of Works and to the Ministry of Labour. Professor H. Phelps Brown, an economist, continues to serve as the third member. As Lord Heyworth's existing commitments prevent his assuming office until late September the new Council will not start work until the beginning of October; its members will decide the timing of its reports. The Cohen Council was set up in August, 1957, to provide impartial reports on economic facts, care being taken to dissociate its work from the Government and the Treasury. Unfortunately the Council failed to win the confidence and co-operation of the Trades Union Congress; to that extent its reports lack effective repercussion. Stressing the value of the reports Mr. Amory said there was "continuing scope for further studies and advice . . . from an authoritative body independent of the Government."

Further Consultative Committee Reports

HARD on the publication of the 1959 report of the Central Transport Consultative Committee (reviewed in our last issue) come those of the Transport Users' Consultative Committees for Scotland and for Wales and Monmouthshire. As distinct from those of the English area committees, which come within the purview of the Central Committee, their reports go direct to the Minister of Transport; they are concerned almost entirely with closure proposals. Schemes approved during the year by the Scottish Committee represent annual net savings of over £120,000 and will avoid expenditure of some £55,000 over the next five years. Actually £59,000 a year will accrue from the closing of stations on the 161½-mile Inverness—Wick main line and the 6¾-mile branch to Thurso under a rationalisation scheme described in these columns on May 14. In reviewing these proposals the Scottish Committee refers to the strong protests from interested authorities, who sent a 15-strong deputation. Nevertheless, having been assured by the B.T.C., to whom appreciation is expressed in the conclusion of the report, of the provision of reasonable alternative bus services, the Committee approved the proposals. However, in view of "statements which appeared to be negatived by the pressure brought to bear on the Commission to achieve economies in face of the declared intention to assist the Highlands to overcome their special difficulties of transport and development" the Committee made a request to the Minister. He was asked to issue a statement for the information of the various authorities concerned "reconciling the apparent contradiction between declared Government policy for the Highlands and the action taken to effect these closures at that particular time."

Co-ordination in Wales

THE most interesting item in the report of the Consultative Committee for Wales and Monmouthshire is its account of the settlement of proposals for the withdrawal of services on the Bala—Blaenau Ffestiniog line. Owing to altered circumstances arising from the decision to build a nuclear power station at Trawsfynydd the original proposal of 1958 for closing the line completely was qualified. The passenger service only would be withdrawn immediately to enable an annual saving of about £23,000, freight facilities would be maintained until the line was cut under Liverpool Corporation's Tryweryn reservoir scheme, and powers were being sought to complete the linking of this line at Blaenau Ffestiniog with that from Llandudno Junction to afford continuous rail access to the nuclear power station. Having heard evidence the Committee was "reasonably satisfied" that as regards the Blaenau Ffestiniog—Trawsfynydd section freight traffic could be conveyed as conveniently, if not in all cases quite as cheaply, via Llandudno Junction as by the existing route and that passenger traffic could go by road. The Committee's principal concern, however, was the complete severance of direct access to Trawsfynydd from the south and east. Accordingly it recommended that the Bala—Blaenau Ffestiniog branch should remain open for both passengers and goods until a reasonable alternative could be found, bearing in mind also that the Liverpool Corporation was committed to pay for the diversion of the line if retained. The Corporation, following discussions between the interested authorities, agreed to contribute substantially towards the cost of an improved road and also of the rail link at Blaenau Ffestiniog, for which the B.T.C. had obtained powers, and the Merioneth County Council promised co-operation with the road. The Committee expresses "deep satisfaction" at the acceptance of their recommendations by the three authorities concerned "in such a wise spirit of co-operation" and that the outcome of the negotiations had been "exactly in accord with that we had in mind."

Toronto Seeks Rapid Transit Cars

EXTENSION by the Toronto Transit Commission of the Toronto Subway system is under way and the Commission is now calling for tenders for a further 40 to 50 rapid transit cars for operation on the existing Yonge Subway and on the Bloor—Danforth—University Subway, which is now under construction and is scheduled for completion in January, 1963. The University section is the first stage of a 10-year extension project. It will be recalled that the present system, which runs approximately north and south adjacent to Yonge Street, between Eglinton and Union Station, employs a great deal of British equipment. The Gloucester Railway Carriage and Wagon Co., Limited, supplied initially 104 complete cars for the service, with British Thomson-Houston electric traction and control equipment and Westinghouse electro-pneumatic brakes. A repeat order for 36 cars was subsequently given, while signal equipment was supplied by the Siemens and General Electric Railway Signal Co., Limited. The present specification calls for two-car units for operation in trains of from two to eight cars; the closing date for tenders is August 22.

By Military Train to Germany

IN the course of a month British Army of the Rhine and Second Tactical Air Force passenger traffic between the Continent and the United Kingdom exceeds 10,000 and these are carried by the thrice-weekly troopship service between Hook of Holland and Harwich. Between points in Germany and the Hook military special trains are run in connection with the sailings by three different routes between Hanover and the Hook and their use is not by any means confined to travellers to and from Britain, for some 20,000 passengers are moved annually within B.A.O.R. A military requirement was passage through Utrecht, whence loading figures were telegraphed to the Hook to facilitate the ship berthing programme. For some time there has been a strong desire to reduce the journey time and the German and Netherlands railways were approached to see what could be achieved. In the upshot, by adopting new paths for the trains, the introduction of the Continental summer timetables on May 29 will see the replacement of the nightly all-sleeper train between Hanover and Berlin and the acceleration of the trains between the Hook and the major Services centres in Western Germany.

Reduced Journey Time

THERE thus will be reductions of up to 4 hr. in the train journey time from Hook to such points as Bielefeld, Herford, Minden and Hanover. Furthermore, the train from Hanover to West Berlin has also been accelerated, so that the overall journey time from Hook to Hanover and on to Berlin will be reduced by 8 hr. 14 min. or 8 hr. 33 min. on the return. The train through Eastern Germany now runs in daytime and the sleeping cars have been withdrawn. During the past year or so the "green" train for Mönchen Gladbach and the Ruhr Valley South has been routed eastbound via Dalheim Dordrecht and westbound through Utrecht. The "red" train for Krefeld and Ruhr Valley North, Hanover and Berlin ran through Utrecht, Arnhem and Nijmegen, whilst the "blue" train for Osnabruck, Bremen and Soltau ran through Amelo and Hengelo to Bentheim. From tomorrow (May 29) the "red" and "blue" trains will follow the same route via Amelo to Bentheim, but to ease the Netherlands Railways' problem of working this traffic through Utrecht the "green" train will in future run in both directions through Dordrecht. The time saved will be particularly welcome to families in transit.

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements.

The Driving Need

PRESENTING this year's Wakefield Memorial Lecture at the College of Aeronautical and Automobile Engineering on May 10, the Hon. B. G. Rootes, managing director of Rootes, Limited, took the opportunity of delivering a number of trenchant observations on the present state of the roads in relation to the growth of road traffic and its effect on the British motor industry. Pointing to that industry's role as the country's leading exporter, having earned by sales abroad no less than £550 million last year, with a record production of 1,560,000 motor vehicles in 1959, Mr. Rootes said that current plans considerably to expand production in the immediate future were not the work of unrealistic optimists, but had been carefully calculated in full realisation of all the problems involved. Expansion was necessary to meet the surging demand for British vehicles throughout the world and only ambitious plans would realise the enormous potential that existed. The competition to satisfy world demand would undoubtedly be tough, but the British motor industry would certainly not be left behind. But the industry must be competitive, which meant a still further increase of turnover so that costs could be spread and prices kept down, and for this the industry must have the security of a fairly unrestricted and motor-conscious home market to underwrite export efforts. It was here that the Government, said Mr. Rootes, displayed a complete lack of logic; while giving its blessing to expansion plans and recognising the importance of the industry to the country's economy, even as far as offering help in building new factories in underdeveloped areas, it handicapped the industry by not providing the roads to carry the vehicles produced.

The Present Road Problem

ADMITTING that he did not pretend to approach the controversial subject of road development as a completely unbiased onlooker, Mr. Rootes nonetheless thought that the need for better roads was so fundamental and of such importance to everybody that he could speak freely. Something like 10,000 new cars a week were coming on to the roads; already, with 8.6 million current licensed vehicles, the roads were terribly congested and Mr. Marples's recent forecast that numbers would reach 15 million by 1975 seemed dangerously conservative. The vital question was whether our planned road development was going to be able to cope with the constant increase in vehicle population. Work done during the past four years to develop an adequate road network had been a step in the right direction, albeit a rather short one. One could wish that the same quality of vision that planned M1 characterised the rest of our road-building programme. Despite the four-year road plan initiated in 1958 and the Government pledge to spend £66 million a year on major construction after 1961, it looked very much as though the condition of roads relative to the volume of traffic at the end of the four-year plan would be worse than it was today. The plain fact was that Britain had spent less on road construction and maintenance in recent years, both per vehicle and as a share of the gross national product, than almost any other European country. In 1959, only 15 per cent of the £564 million collected in taxes from road users was spent on roads, representing a minute 0.66 per cent of the gross national product. In contrast, in the United States of America, the £3,000 million spent on roads represented 2.8 per cent of the gross national product and was actually some £394 million more than was collected in road vehicle taxation. Compared with Britain's mere 15 per cent of road vehicle taxes spent on roads in 1959, Western Germany spent 97.4 per cent, Belgium 42 per cent, France 42 per cent and Italy 37 per cent.

No Master Plan

SUPPORT of the Wakefield Memorial Lecturer's contention that there is no real master plan for road development in Britain came in a letter to *The Guardian* from Mr. C. D. Morgan, secretary of the British Road Federation, prompted by a leading article in that newspaper on May 10 which concluded "it is high time the Government agreed to a massive increase in investment on roads." This letter gives chapter and verse of authorisations and expenditure on road works from 1954 to the present and concludes that while the Government's promise to increase money spent on road modernisation is being kept and that the increased expenditure can be well maintained for another year or two, the position of estimated future authorisations must give cause for grave disquiet. Major roadbuilding schemes could not be put in hand overnight; in many cases preliminaries, because of protection given to existing interests, can be measured in years. Examination of available statistics shows that the level of £96 million authorised in 1958-59 was the natural result of the capital allocation to the Minister of Transport in 1955, though it might have been boosted slightly by the fresh capital allocation in 1957. The present Minister, declared Mr. Morgan, professes to be unconcerned that the balance of authorisations remaining to him (and the Secretary of State for Scotland) for 1961-62 is easily less than half of those for each of the past four years. From replies to Parliamentary questions it appeared that at best new schemes were to be fed into the road programme at the rate of about £68 million a year; if, as was said by the Minister, this level of authorisation was not to be decided until the annual road vote of Parliament was approved in March each year, the ad hoc basis of road modernisation became apparent. The Minister's statement of March 30 suggested that there was no intention of increasing the scale of the present programme; yet the situation was, according to the chairman of the Federation of Civil Engineering Contractors, that that industry could support a programme at twice the present rate. Meanwhile, B.R.F. calculations indicate that some of the impetus of the past three or four years is now lost.

What is Wanted

ONE item put forward by Mr. Rootes for solution of the present problems was that the Minister's first task was to persuade his cabinet colleagues to give him more money so that he could plan for 25 instead of five years ahead. Overall development should visualise not only the building of motorways, the elimination of bottlenecks in cities by the use of flyovers and elevated roads and the improvement of existing trunk roads, but also establishment of decentralised shopping areas on the outskirts of cities. Tollroads on the American style, although against British principles, deserve investigation; the extra financial burden on the road user would presumably be repaid by safer and faster travel. The Minister's urban traffic planning policy seemed anti-motorist and negative; Mr. Rootes's view was that it was wrong to ban parking, except as an emergency measure, unless alternative accommodation was provded. Since it was doubtful whether private enterprise could provide off-street parks quickly enough and in sufficient quantity, Government and local authorities must help to foot the bill. Useful comment on what can be learned from American experience of living with the motor car appeared in *The Daily Telegraph* earlier this week in articles by Professor W. Fisher Cassie, who holds the chair of civil engineering at Durham University, arising out of a visit by 34 senior British civil engineers to the United States to study the development of urban motorways. In the four major cities visited—New York, Chicago, Los Angeles and San Francisco—it was tacitly recognised that modern man in urban areas wished to make full use of his car and that he should be allowed to do so. The policy of giving the motorist freedom within a framework of rigid discipline was accepted by the American. The motorist obeyed the rules and paid for the advantages of using road transport by some inconvenience and expense. Not all the consequences of urban motorways have been good; we must clearly consider what should be done in Britain, under an enlightened and positive policy, to avoid the worst of transatlantic blunders. Public transport here can work to the general public good if properly encouraged.

NEWS SUMMARY

IF railways were to get back the long-distance passenger, they must regard the motor car as a friend and not an enemy, Mr. R. Gresham Cooke, M.P. for Twickenham and joint secretary of the Conservative Parliamentary Transport Committee, told Conservative trade unionists at Harrogate on May 22. When the business man or the holidaymaker arrived at his destination, he wanted a car for the day for his short visits. "Could not the railways have cheap hire-cars standing in their station yards which, for £1 or so, could be used for the day?" He also hoped for pneumatic wheels on redesigned trains and a subsidy for rail track maintenance.

The need for a modern outlook on railway administration was the keynote of Sir Brian Robertson's address to the annual conference of the Associated Society of Locomotive Engineers and Firemen. People were talking of the railways as a burden on the economy and railwaymen now had to prove that they were, instead, a great asset to the country. That meant high efficiency and economy. The Guillebaud report and all that it implied would be a landmark in the industry.

At the corresponding conference of the Transport Salaried Staffs Association the president, Mr. R. J. Gunter, M.P., made an attack on C-licensees and suggested that a subsidy to the railways would cost less than the chaos of road congestion. Completion of railway modernisation was more important than "fiddling about with self-accounting regions." Mr. W. J. Webber, general secretary, said out-of-category staff were now to get the 5 per cent increase as from January 11.

Organisation of the British Aircraft Corporation is set out on page 7.

TRANSPORT MANAGEMENT TOPICS

A Stimulating One-Day Conference

FLEET UTILISATION : CHARGES : PLANNING

THERE is no vital difference in principle between transport management and other management, but despite this there is often a reluctance to apply the management techniques learned in manufacturing industry to the problems of transport. The transport manager is frequently the butt and alibi for departmental heads; he should avoid being panicked into hasty and perhaps costly decisions. These were two key points made by Mr. A. D. Wilson, B.Sc., M.I.Mech.E., managing director of a firm of industrial consultants, in introducing a one-day conference on transport management in London last week. It was organised by the British Institute of Management with the assistance of the Institute of Transport and was attended by 100 top-level transport executives.

In a contribution entitled "Economics of Fleet Provision—Road and Rail," Mr. J. A. McMullen, transport officer, Imperial Chemical Industries, Limited, confined his specific observations to the subject of tank vehicles, but his paper had a wider background. Comparison of the economics of road and rail tanks is complicated because a sender or consignee, by reason of fluctuations in traffic or the standard of railway service, may decide to provide himself with a greater number of rail wagons than straightforward operation requires. The current modernisation of the railways has accelerated various changes in design requirements and obsolescence may come quicker than formerly. The first cost of wagons suitable for conveyance on modern fast power-braked freight services is higher than that of the previous standard wagon.

A rail tank may be expected to do 20 200-mile round trips in a year delivering 400 tons. It is at present only with major and regular movements of the order of a trainload a day that substantial improvements are achieved. A road tanker may do 300 90-mile round trips and deliver 4,000 tons and it is available for loading if necessary 24 hours a day—a useful safeguard in emergency situations.

Cost of C-Licence Operation

In road transport the choice of operation was very much wider. Was the widespread growth of the C-licence a real reflection on the service public road transport was giving, or could it be explained by reason of the work not being suitable for public vehicles? In 1958 the T.R.T.A. made a survey and listed a number of the reasons why private fleets were preferred to hired haulage. Speed of delivery and certainty of timing figured as the most important; cost came second. "One has no grounds for doubting this result but it should not be allowed to obscure the necessity for seeking to know if the attainment of this standard of service is costing more than that provided by hired haulage and if so how much," said Mr. McMullen.

The acquisition of the first one or two road vehicles may seem to be economically attractive but the gradual growth of a fleet brings calls for further outgoings. A point will be reached when garage and maintenance facilities and possibly parking accommodation will be necessary. For example, £5,000 spent on vehicles has required a further 15 per cent of this sum for depot and equipment, £90,000 spent on vehicles has required 23 per cent and £500,000 has required 63 per cent. When the transport payroll reaches 250 separate amenities of every description are required. When new facilities are brought into use capital investment per unit of transport work done is inflated; it then gradually deflates until further extensions are required. The greater the size of these fixed costs the greater the urge to increase the extent of one's private operations so that they may be spread over a greater amount of transport work done.

Technical Service to the Fore

After explaining the purposes to which the analysis of road and rail operating costs might be put, Mr. McMullen concluded with this verdict: "I have the feeling that the number of cases is growing where the advantage in cost of running one's own fleet as opposed to employing a professional transporter is decreasing and it is often more a question of the technical service advantages, most important with much of the traffic in the chemical industry, that makes private operation the right choice." The user should be ready to test the market besides running a soundly based costing system.

Standards of Operational Control

Steps towards the better use of transport was the theme taken by Mr. J. E. Pleming, an industrial consultant. The potential scope for the use of the four techniques of work study, operational research, planning and control techniques, and management accounting has not yet been realised in transport, he said. There is, for example, a real need for a formal system of control based on predetermined standards. Many transport managers rely on "quick and dirty" indices of effectiveness as a substitute for more precise forms of control—cost per ton-mile, cost per delivery, etc.—but these do not reveal the causes giving rise to excessive costs, the effect of volume changes on unit costs, or the effect of variations in the "mix" of traffic, necessary to provide satisfactory detailed control, and they are often glaringly inappropriate.

The alternative is standard costing and budgetary control. Control implies that actual expenditure in each period is compared with the budgeted level to reveal over or under expenditure and under or over recovery. To do this we need a unit of output in terms of which all output can be accurately expressed. The unit of output suggested is one in terms of which the output for a driver and his vehicle can be expressed, no matter what combination of duties he may be called on to perform. This unit is the standard hour of work, which provides not only the unit for expressing output and thus permitting comparison of actual and budgeted overheads but also the essential basis for control of labour and vehicle utilisation and costs.

The Standard Hour

The time standards established, expressed as so many standard hours per 100 miles, per ton, per 100 deliveries, etc., immediately enable control to be achieved on the utilisation of drivers and vehicles. By extending the miles, tons, deliveries, etc., carried out by the standard hour value appropriate to each, one gets a total of standard hours of work produced. This, compared with the hours available gives an index of performance against standard.

As well as telling one what is happening, a good control system will indicate the scope for potential economies—maybe 15-25 per cent of total transport costs. There are three main ways of effecting economies, incentives, improved operating methods, and intelligent planning. As to incentives, once proper standards have been set it will usually be found that the daily output of the drivers is no more than 65-75 per cent of that which they could achieve if they tried. Scope therefore exists for something like a 50 per cent increase in productivity (the speaker acknowledged the existence of trade union agreements), but:

(*a*) the incentive must be designed to achieve what you want to achieve—it will be different if you want to encourage drivers as against driver-salesmen—or perhaps you may want to offer incentives to obtain return loads;

(*b*) secondly, there is usually a case for a merit rating scheme to encourage cleanliness, avoidance of accidents, etc.;

(*c*) thirdly—the incentive must be based on good planning. It is no good offering a driver an incentive to get through his round early—unless you have already preplanned the delivery he has to make when he gets back from the first;

(*d*) the incentive must not enable the driver to opt for longer hours unnecessarily. The incentive must therefore be fairly steep;

(*e*) lastly, the incentive should be based on elemental data, such that they can be synthesised to provide new standards as and when conditions change, as they are always liable to do.

Planning

Methods study and improvement forms, of course, part of the technique of work study; and the investigations directed to establishing standard times almost invariably point the way to a number of possible improvements. Sometimes only 50-60 per cent of vehicle time is spent in transport or other useful work. Careful planning on the basis of work study standards is always well worth while. In the initial stages it demands full-time concentration and in certain very complex undertakings there is an obvious need for a planning section to be attached to the transport manager but the results are often startling.

While not, by any means, the only factor, rates are at the heart of the transport problem. This was the theme of the contribution by Mr. L. A. Carey, M.Inst.T., group transport manager, Reckitt and Colman Holdings, Limited. Rate-making, he recalled, has been described as both a science and an art, and "I would not disagree with a prominent member of the British Railways central staff who said that in future it would be more of an art and less of a science than ever. By this, I assume, he meant that skill and judgment would become even more important than the application of precise quantitative characteristics." The quotation of railway rates, said the speaker, has been greatly accelerated and station or district office staffs are able to quote "off the cuff" for wagon load quantities with the aid of confidential guide scales which they possess. There is, however, still more to be done in speeding up rate quotations, particularly where the figure quoted locally is not the last word. It is believed that there has been a great amount of weeding out of exceptional rates for lots over 1 ton since the charges scheme came into force.

Novelty in Charging Arrangements

Now that actual charges are no longer public knowledge, it is difficult for an outsider to judge the extent to which the railways have made use of their new freedom. It is certain that they have pursued a much more commercial line than formerly and they are probably prepared to consider almost any innovation that they or the trader can suggest. For example in addition to such arrangements as flat rates and agreed charges which were common under the old charging conditions, they have introduced—

two-part tariffs, e.g. a fixed sum plus so much per ton, or so much per ton over a certain stipulated tonnage;
rebates if a certain tonnage is exceeded; and
inclusive tonnage rates which cover a variety of services;
and so on.

It appears that they are pursuing gradually but relentlessly a policy aimed at attracting what they want but pricing out those traffics which cannot or will not pay their way. The old argument advanced in railway circles that it was impracticable to base charges on cost because there was no means of knowing the costs of any particular block of traffic is now discredited and every railway region and B.T.C. headquarters has its costing service. "Sometimes I wonder what railway economists of the last century would think could they but revisit their old haunts."

Influence of C-Licensee on Haulage Rates

We must make up our minds that nowadays the most important single factor in the market for inland transport is not the competition between professional carriers but the C-licensed operator. Road transport is responsible for 50 per cent of the total ton-mileage against less than 35 per cent by rail; C-licensed vehicles account for about 85 per cent of the total road ton-mileage.

Road transport operating costs have not increased by anything like the same extent as railway, or for that matter, canal or coastwise shipping costs, for the simple reason that it is continually improving its technical efficiency. While a high degree of two-way loading is possible within large industrial groups, obviously many C-licensed vehicles operate at a considerable disadvantage compared with those of professional carriers. It would seem, therefore, that it is C-licence costs with provision for a fair measure of empty running which will determine the upper level of both railway and road carriers' rates over a very large range of traffics.

How Much Regulation of Charges?

At this point it is perhaps opportune to consider what control of transport charges is practicable and/or desirable. Without complete state ownership of all methods of transport including private vehicles, goods and passenger—a situation which, it is suggested, is incompatible with our present social system—it is impracticable to go beyond a very general overriding control aimed at preventing the exploitation of transport workers, of the public at large and of individual operators, and of the maintenance of proper standards of safety.

Subject to these safeguards, transport is best regulated by relating its charges to its costs. Only then is it possible to achieve a realistic division of function between different forms of transport, an economical geographical location of industry and the production of the right quantities of transport

(*Continued on page* 17)

SKF *at work in New Zealand . . .*

SKF spherical roller bearing axleboxes are fitted to many of the steam, electric, diesel-electric, and diesel-mechanical locomotives operated by the New Zealand Government Railways, including the 400 H.P. Bo-Bo diesel-electric shunter illustrated.

This is one of 18 locomotives for which the Traction Division of Associated Electrical Industries were the main contractors, the mechanical parts being supplied by The Clayton Equipment Co. Ltd.

Railways in all parts of the world depend on the advanced design and complete reliability of SKF roller bearings.

SKF

SPHERICAL ROLLER BEARING AXLEBOXES

THE SKEFKO BALL BEARING COMPANY LTD · LUTON · BEDS

OVER ONE MILLION SKF ROLLER BEARING AXLEBOXES HAVE NOW BEEN SUPPLIED TO THE RAILWAYS OF THE WORLD

AEI-GRS Equipment for

Europe's first fully automatic yard

at MARGAM, British Railways, Western Region

Desk in control tower at Margam showing telephones in drawer underneath.

Automatically controlled retarder. (PHOTOGRAPHS BY COURTESY OF BRITISH RAILWAYS, WESTERN REGION)

Another 'first' in railway automation progress
goes to AEI-GRS with the opening of Margam Computer and Radar Controlled Marshalling Yard. It incorporates the following important features:

- **Fully automatic retarder and point operation**
- **Radar speed control**
- **Rollability and distance-to-run computers**
- **Punched tape programming**
- **Cab signalling in shunting locomotives**
- **NX signalling with miniature relays**

AEI

AEI-GRS Limited, 132-135 Long Acre, London, WC2 TEM 3444

BOMBAY · BULAWAYO · CALCUTTA · CAPETOWN · JOHANNESBURG · KARACHI · SYDNEY · SALISBURY · WELLINGTON

AEI-GRS Leading Signalling Progress

K.5001A

LORRY—BUS—COACH

T.I.R. Carnet Insurance Snag

INTRODUCTION of the T.I.R. carnet for road freight movements between this country and the Continent has been held up by difficulties in finding insurance cover. The T.I.R. carnet system was due to commence on January 7. However, it is understood that the consortium of insurers which previously underwrote the guarantee which the International Road Transport Union has to give European governments against Customs contraventions then indicated that it could not continue to accept the risk because, it appears, of recent contrabanding. The position therefore was that the issuing organisations—and these include the R.H.A., T.R.T.A., A.A. and R.A.C. over here—had to explore new sources of insurance cover, the premium for which is found out of the sales of T.I.R. carnets. At the I.R.U. congress at Dubrovnik it was indicated that a solution had been found to this problem and there remains only the certification of vehicles, which must be inspected by the Government concerned before they can be operated under a carnet. It is understood that few, if any, vehicles have so far been operated from the United Kingdom under the T.I.R. carnet. Some operators are dubious as to the value of a throughout movement under the T.I.R. carnet because they anticipate more rather than less delay to the vehicle. At present the customs inspection at Antwerp is carried out very expeditiously but British customs at Tilbury may well require to make a very much more thorough examination of the vehicle and its load.

B.R.S. Meat Haulage Centres

WITH the disbanding of United Carriers, Limited, B.R.S. (Meat Haulage), Limited, has taken over five U.C.L. report points, at Birmingham, Chatham, Eastbourne, Reading and Watford, bringing the total number of operating branches up from 12 to 17. With the exception of Birmingham, the B.R.S. had a few meat vehicles at each of these places. The meat haulage company is now free to pursue an independent commercial policy, as, of course, are other meat carriers. The active fleet numbers about 450 vehicles.

North-East Fare Increases

FARES of Tees-side bus undertakings are to be increased as a result of applications to the Northern Area Traffic Commissioners. Granting an application of Middlesbrough Corporation, the chairman (Mr. J. A. T. Hanlon) said that great credit was due to the Corporation for the way in which it had managed its undertaking, and that the increases sought still left the fares well below the average for the country. The estimated cost of the recent wage award, it was stated, was £30,000 a year. The surplus for the year ended March, 1960, was £9,500, and in 1960-61, if present fares were continued, it would be £3,000. Altered circumstances and the possibility of further responsibilities being thrown on the department, particularly in connection with the growth and development of schools in Middlesbrough, would turn the year's working in 1960-61 into a deficit of £32,000. It was proposed to retain the 1d. fare for 0.7 miles. Distance of travel for 2d. would be reduced to 1.4 from 2.1 miles, and for 3d. to 2.8 from 3.5 miles, retaining the 4d. maximum.

Stockton Corporation was granted consequential increases on eight routes operated jointly with Middlesbrough, and United Automobile Services was also authorised to come into line. Tees-side Railless Traction Board was authorised increases. The clerk to the Board, Mr. E. Parr, said that by good management it had effected economies by alteration of schedules, reduction of mileage and maintenance costs, but such things could only be taken so far if the services to the public were not to be impaired. Fortunately, the Board had been able to effect a reduction in rateable value assigned to the undertaking, and there had also been a fortuitous reduction of £2,000 in licence fees.

Part-Time Driver in Wage Appeal

A SUBMISSION by a C-licensed driver that the wages paid to him by his employer were unfair in that he was underpaid has been rejected by the Industrial Court in its award No. 2761. The employee was required by National Car Parks, Limited, London, W.1, to drive C-licensed vehicles at a weekly wage of £10. Deductions were to be made at the rate of £3 per week if he worked in a car park for two days of the week. The proper rate for the vehicle was said to be £8 8s. for a 44-hour week. Claimed as underpayment was a sum of about £150 and subsistence payments of about £19, together with accrued holiday pay.

The employer submitted that he spent little over half of his total working hours on driving. He received not less than £7 2s. per week, which was the minimum rate for a 5½-day week. He received additional payments for car park duty during the week or at weekends. The court says it is unable to say that the payment was unfair and it makes no award.

Disputed Use of Garage Site

THERE was a public inquiry at Croydon Town Hall last week into a town planning application by T. P. Coughlan (Butchers' Suppliers), Limited, owner of the Cherryfield meat market at East Croydon. The company seeks to use a piece of land in Croydon for the parking of 12 insulated vehicles. Incidental repairs and maintenance would also be carried out. The council held that because the land was previously used for the storage of building materials the proposal constituted a material change in the use of the site and that therefore planning permission would have to be granted. It contended that the intensification of use at weekends by the appellant also constituted a material change. The appellant stated that the original owner of the land in 1936 was a haulage contractor who by 1949 was using the site 24 hours a day and that only part of the site was used for storage purposes. The proposal, therefore, could not be regarded as development. The decision is to be announced later.

A 163-ton mill housing en route from Sheffield to the Northern Aluminium plant at Rogerstone, Mon., negotiates a turn off the A34 near Chipping Norton. Gross trailer weight was around 205 tons. The route extended over 315 miles compared with a normal 185 miles and travelling time was 11 days. At Gloucester the load had to be transferred to rail for the Severn crossing, then back to road

Limited Field for 12-Seat Buses

CHAIRMAN of Northern Area Traffic Commissioners, Mr. J. A. T. Hanlon, said in Stockton-on-Tees last week that if people wanted something better than existing arrangements for public transport, they must be prepared to pay more. He was announcing the Commissioners' decision to refuse an application by Kenneth Hutchinson, of Saltburn, to provide an excursion and tour for the purpose of conveying to Butlin's Holiday Camp at Filey (Yorks), from Skelton-in-Cleveland, picking up at Brotton and Loftus, persons who had booked holidays at the camp. The application was opposed by United Automobile Services, Limited, and East Yorkshire Motor Services, Limited. Hutchinson, said Mr. Hanlon, was an agent for Butlin's and also the owner of two 12-seat miniature buses, one of which he used to carry school-children. In the course of taking bookings for holidays at the camp, he had received requests or obtained provisional bookings for transport. It was quite impossible on the evidence to say the existing stage services were unsuitable or inadequate, as alleged. In this country the public arrangements for the carriage of passengers were by train, or express or stage carriage services under licence. If people wanted something better, they must go privately. In those circumstances, they must pay more.

Transport Men See Vehicle Ferry

A GROUP of members of the Traders' Road Transport Association visited Tilbury on Wednesday last week to inspect the Transport Ferry Service m.v. *Bardic Ferry*, which maintains a regular service between Tilbury and Antwerp. As already announced, on June 10, 1960, a Tilbury—Rotterdam service will be inaugurated. Earlier the members visited the Grays depot of British Road Services, which arranged the day's programme in co-operation with the T.R.T.A. B.R.S. intends to use the new ferry, on which the departures from Tilbury are on Friday, to shorten hauls to the Netherlands and West Germany. The Netherlands carrier Van Gend en Loos will handle movements there.

Prospects in Glasgow

THE Scottish Area Traffic Commissioners last week authorised Glasgow Corporation Transport Department to abolish the 4d. bus fare. The charge for three and four stages will now be 5d. In evidence, Mr. E. R. L. Fitzpayne, general manager of the department, estimated that an annual increase of 25,000 television licences and 8,000 cars in the Glasgow area meant an annual loss of more than 16 million passengers. Each television licence kept two people at home for two evenings a week, and every car licence meant the carrying of one person a return journey seven days a week which would otherwise have been made by municipal transport.

Dissecting the department's costs, Mr. Fitzpayne said their main economy had been changing from trams to buses, as the cost of maintaining the track had been going on at the rate of £500,000 a year. On new trams which had been constructed after the war £412,000 had still to be repaid, and £806,000 had to be paid on electric sub-stations which had to be converted. Repayment and interest amounted to £279,000 a year, and would do so for at least 10 years after the tramway system was completely abandoned. Baillie J. Bennett, transport convener, agreed with Mr. W. Quin, chairman of the commissioners, that this was the 10th application since the end of the war, but he pointed out that in future the suburban electrification plan would help them in their most expensive sphere—peak-hour travel. They were to meet the British Transport Commission soon to discuss the provision of local bus services to the nearest railway stations.

Bus and Coach Developments

Sunderland Corporation proposes a weekday service to High Barnes via Borough Road, Chester Road, Durham Road, Hunters Hall Road and Oatlands Road.

Hallen Coaches (Bristol), Limited, seeks the excursions and tours from Bristol of the Tetbury Passenger Transport Co., Limited, and the Severn Beach Hotel—Bristol express service of A. R. Boyton.

B.R.S. MEET 24-HOUR EXPORT DEADLINE

Saturday a.m. Wool delivered to M/V 'Adler' at Hull.

B.R.S. had 24 hours to get this urgent consignment to the ship. They made it with time to spare. Jobs like this are all part of the normal service. Their clients know this and count on B.R.S. for punctual deliveries. W. N. Pollack Ltd., of Brearton Street, Bradford, Wool Exporters (whose wool it was), wrote this to B.R.S. . . . "The fact that we can remember no instance when you have failed to deliver our consignments on time speaks very highly of your organisation and drivers . . . our sincere thanks."

Told on Friday— in the hold Saturday

Friday a.m. Branch Manager J. Webster warned of rush job.

Friday noon. Driver briefed.

Saturday a.m. Wool leaves Bradford.

Saturday noon. Wool aboard, 'Adler' sails.

To get things moving—get B.R.S.

YOU'LL FIND THEM IN THE 'PHONE BOOK

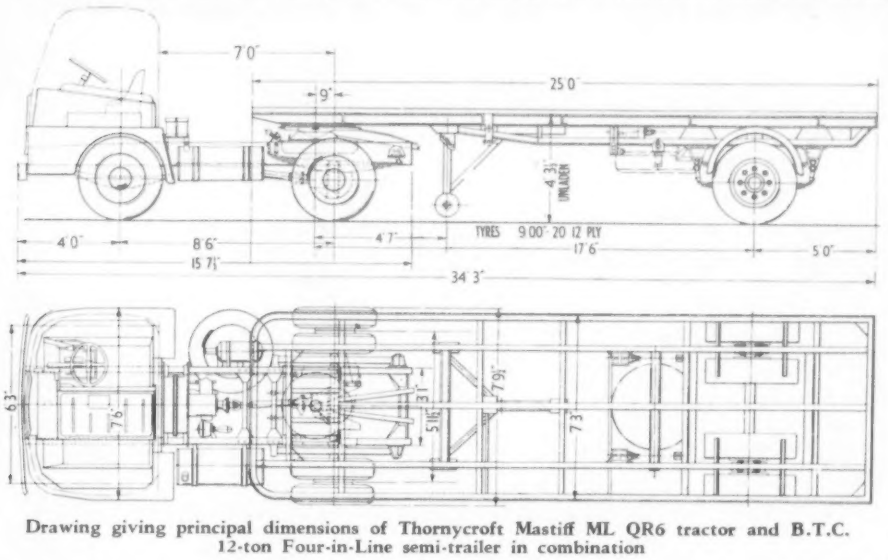
COMMERCIAL VEHICLE TEST

*Thornycroft-B.T.C. 20-Ton Gross Articulated Lorry**

FAST, ECONOMICAL AND STABLE TRUNK HAULER

NEAR-ideal driving conditions and really adequate power of the tractor allied with low rolling resistance and excellent stability of the semi-trailer were praiseworthy characteristics of a Thornycroft-B.T.C. articulated lorry that we tested recently. The tractive unit was the Mastiff ML QR6 just introduced by Transport Equipment (Thornycroft), Limited, for a gross combined weight of 20 tons, which differs from the established Mastiff ML NS6 for 18 tons gross weight only in the higher-powered engine and larger clutch, while the semi-trailer was a standard 12-ton capacity Four-in-Line unit designed and produced by British Trailer Co., Limited—actually a demonstration vehicle provided by that company for development and test purposes.

The new tractor is powered by the Thornycroft QR6 six-cylinder direct-injection diesel engine, which from a capacity of 600 cu. in. (9.83 litres) has net maximum output of 130 b.h.p. at 2,000 r.p.m. and 435 lb./ft. torque at 1,200 r.p.m. Transmission is through a 16-in. diameter single dryplate clutch, five- or six-speed (optional overdrive) all-constant-mesh gearbox, open tubular propeller shaft and fully floating spiral bevel rear axle. An Eaton 18800 series two-speed rear axle is available optionally. Air pressure-hydraulic brakes provide a total lining area on the tractor of 681 sq. in. Cam-and-double-roller steering gear can be provided with hydraulic assistance. Allied with a suitable semi-trailer, the vehicle thus forms a flexible counterpart of the Mastiff Super Freighter rigid six-wheeler (MODERN TRANSPORT, November 7, 1959), though due to the higher tare of articulated vehicles, payload capacity in this form at maximum gross weight is about 12½ tons compared with 14 tons for the rigid vehicle.



Drawing giving principal dimensions of Thornycroft Mastiff ML QR6 tractor and B.T.C. 12-ton Four-in-Line semi-trailer in combination

B.T.C. Semi-Trailer

The British Trailer Company's Four-in-Line 12-ton semi-trailer is now well known and widely used. Based on a 25-ft. long main frame, with a supplementary frame fully supporting the body floor, all electrically welded, it employs four wheels in line carried on tapered-roller-bearing hubs mounted on two B.T.C. oscillating axles. The axles are mounted in cast-steel trunnions pivoting in large phosphor bronze bushes in cast-steel housings, which also incorporate the spring mountings. The twin semi-elliptic springs on each side are mounted one above and one below each axle, the drop-forged shackles being connected through hardened and ground pins and phosphor bronze bushes mounted in cast-steel brackets.

Advantages of the Four-in-Line arrangement are that all wheels do a virtually equal share of the work irrespective of terrain, that there is less rolling resistance in cornering than with paired wheels and that four brakes are used instead of only two. This superiority is acknowledged in the legal limit of 11 tons permitted with this arrangement compared with 9 tons on a paired four-wheel axle. The B.T.C. trailer incorporates four Girling 15¼ in. by 3½ in. brakes, compensated in pairs and providing 416 sq. in. lining area, which can be operated by dual vacuum or single- or two-line air pressure to suit the tractor equipment. The test vehicle had two-line air-pressure operation, incorporating trailer reservoir and two diaphragm air chambers actuating the shoes through S-type cams. An independent hand parking brake is also fitted. Standard coupling is a B.T.C. design of S.A.E.-S.M.M.T. kingpin in 70-ton Vibrac steel incorporating a sprung fifth wheel. Tyres are 9.00-20 12-p.r., similar to those of the Mastiff tractor.

Weights and Payload

The ML QR6 tractor has a chassis weight in licensing order of 3 tons 18 cwt. and complete with standard Thornycroft reinforced plastics cab and full road equipment it weighs about 4 tons 8 cwt., leaving a balance of roundly 15 tons 12 cwt. for fifth wheel, semi-trailer and payload within the recommended gross weight. The semi-trailer provided for the test, with timber platform and headboard and front supporting legs, has a tare of 2 tons 13½ cwt. Coupled and ready for the road, the complete test vehicle scaled 7 tons 13½ cwt. A load of concrete blocks and test equipment brought the running weight up to 20 tons 1 cwt., without the crew of two, equivalent to a payload of 12 tons 7½ cwt. The total weight was distributed 3 tons 12½ cwt. over the front axle, 8 tons 6½ cwt. over the driving axle and 8 tons 2½ cwt. over the trailer axles.

As we have come to expect from Thornycroft, the new vehicle offered first-class conditions for the crew in the latest version of the company's resin-glass cab. Standard fittings in this cab include deep wraparound screens and wraparound

Slightly lowered bumper and raised grille to accommodate the Mirrlees illuminated nameplate are seen in this picture of the vehicle on test not to detract from the good looks of the Thornycroft plastics cab

(*Continued on page* 12)

TEST RESULTS AT A GLANCE

Vehicle Details

MAKERS: Transport Equipment (Thornycroft), Limited, Basingstoke, Hants, and British Trailer Co., Limited, Manchester.

TYPE: Thornycroft Mastiff ML QR6 tractor and B.T.C. Four-in-Line 12-ton semi-trailer.

ENGINE: Thornycroft QR6 six-cylinder direct-injection diesel; bore 4·75 in. (120·6 mm.), stroke 5·65 in (143·5 mm.), capacity 600 cu. in. (9·83 litres); 130 net max. b.h.p. at 2,000 r.p.m., 435 lb./ft. net max. torque at 1,200 r.p.m.

TRANSMISSION: **Clutch,** Borg and Beck 16 in. (406·4 mm.) dia. single dryplate, total lining area 268 sq. in. (1,729 sq. cm.); **gearbox,** Thornycroft five-speed constant-mesh with optional overdrive sixth, ratios 7·05, 3·9, 2·38, 1·49, 1 and 0·81 to 1 forward, 6·3 to 1 reverse; **driveshaft,** open tubular with needle-roller-bearing universals; **rear axle,** fully floating spiral bevel, ratios 6·83, 6·14 or 5·375 to 1, or Eaton 18800 two-speed unit with ratios 5·14 and 7·02 to 1.

BRAKES: Air pressure servo-hydraulic tractor, total lining area 681 sq. in. (4,403·5 sq. cm.); two-line air pressure-mechanical trailer, lining area 416 sq. in. (2,683·8 sq. cm.).

TYRES: 9·00-20 12-ply rating all round.

WHEELBASE: Tractor 8 ft. 6 in. (2·59 in.).

WEIGHT: Tractor in licensing order 3 tons 18 cwt. (3,454·5 kg.); total operating tare as tested 7 tons 13½ cwt. (7,808 kg.).

Test Results

ROUTE: Mixed route in Basingstoke area.

CONDITIONS: Dry and cool.

RUNNING WEIGHT: 20 tons 1 cwt. (20,371·7 kg.) plus crew of two.

PAYLOAD: 12 tons 7½ cwt. (12,573·6 kg.).

FUEL CONSUMPTION: Two continuous runs of 15 miles each (i) 10·2 m.p.g. (3·62 km./litre) at 30 m.p.h. average speed, (ii) 10·5 m.p.g. at 31 m.p.h.

GROSS TON/M.P.G.: Over 30 miles, 209 (75 tonnes/km./litre) at 30·5 m.p.h.

PAYLOAD TON/M.P.G.: 128 (44·8 tonnes/km./litre).

MAXIMUM GRADIENT CLIMBED: 1 in 8·4 (11·9 per cent).

TURNING CIRCLE: 48 ft. (14·6 m.) sweep.

ACCELERATION:
Averages of four runs, two in each direction, through gears:
0-20 m.p.h. 14·7 sec.
0-30 m.p.h. 31·2 sec.;
in top gear:
10-20 m.p.h. 12 sec.
10-30 m.p.h. 28·5 sec.

BRAKING: Best measured stop from 30 m.p.h. on dry tarmac 55 ft. (16·7 m.), equivalent to 17·6 ft. per sec. per sec. or 0·55 g. overall deceleration; Tapley meter 80-94 per cent. Handbrake alone from 20 m.p.h. 29-34 per cent; trailer air brake alone 32-37 per cent Tapley.

ESTIMATED TOP SPEED: Over 45 m.p.h. (72 k.p.h.).

OVERALL FUEL CONSUMPTION: For 70 miles of mainly hard driving, including low-gear full-throttle work in various tests, 8·8 m.p.g. (312 km. per 100 litres).

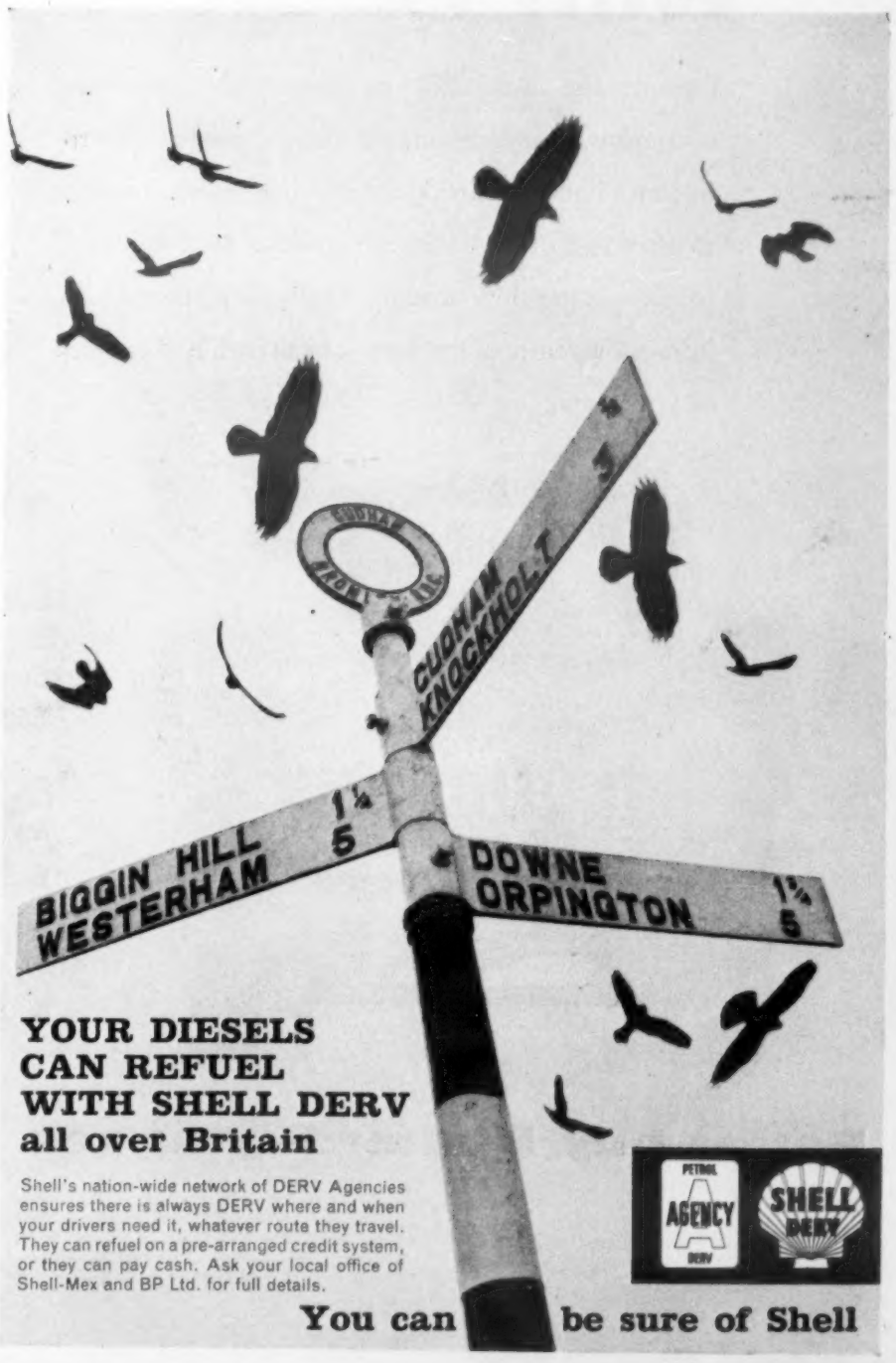
* No. 472 in the MODERN TRANSPORT series of road tests.

The Dennis Pax provides the answer to all medium weight transport requirements. Robust structure throughout makes the Pax a particularly attractive investment, where specialised bodywork is contemplated.

The Pax specification is flexible offering a choice of wheelbases, engine and equipment, and both normal and forward control. In addition the range includes a tractor and a tipper, both with the same wide choice of specification.

DENNIS PAX

DENNIS BROS LTD GUILDFORD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YOUR DIESELS CAN REFUEL WITH SHELL DERV all over Britain
Shell's nation-wide network of DERV Agencies ensures there is always DERV where and when your drivers need it, whatever route they travel. They can refuel on a pre-arranged credit system, or they can pay cash. Ask your local office of Shell-Mex and BP Ltd. for full details.
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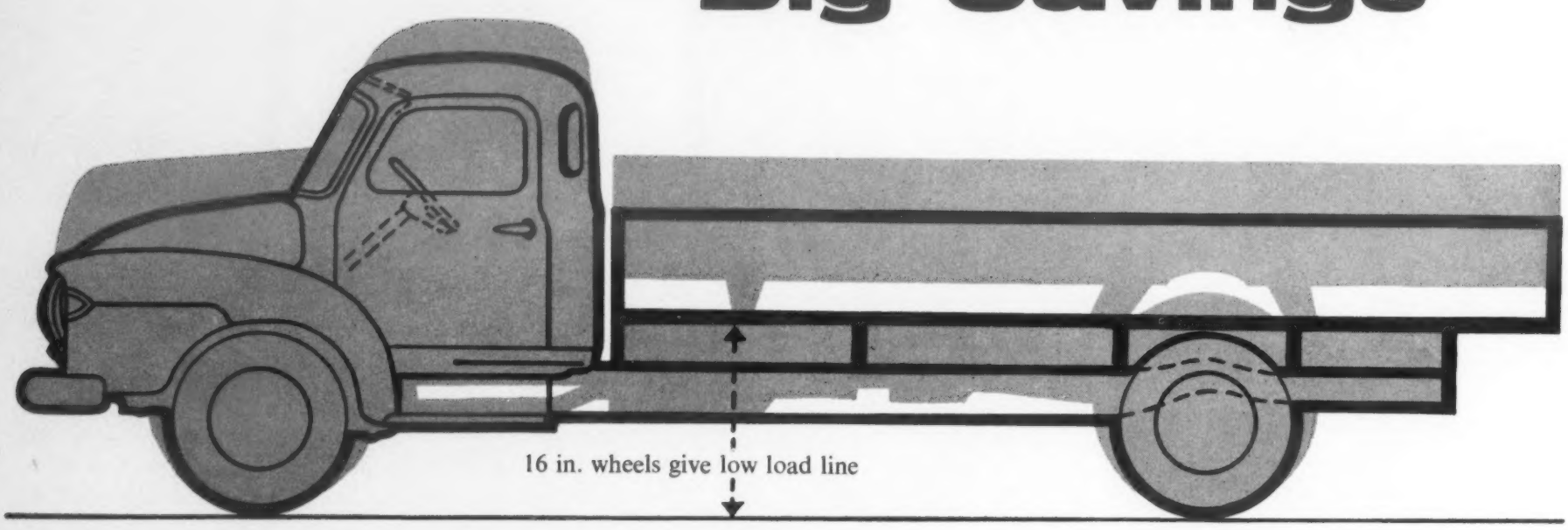


with Bedford 3 & 4 tonners

Consider the advantages you get with the small wheel equipment, standard on the rugged normal control Bedford 3 and 4 tonners. Sixteen inch wheels give you so much extra — extra easy cab access, step height only 16 in. — extra low loading height — extra stability from a low centre of gravity — extra tyre life of as much as 17 per cent.

Bedford normal control has many more features — superb vision from the extra-wide, extra-deep curved windscreen; sloping bonnet for close-up view of road ahead; comfortable three-man cab.

Powered by the 64 b.h.p. Bedford diesel, or the 100 b.h.p. petrol engine, there's a Bedford 3 or 4 tonner exactly suited to your requirements. See your Bedford dealer.

Tyre life improved by 17%

Consider these important technical advantages of the small wheel equipment and 7.50-16 tyres fitted to Bedford 3 and 4 tonners.

- Less unsprung weight, improved ride both laden and unladen.
- Less stress on axle and shafts with smaller wheels.
- Lower centre of gravity, greater stability, better cornering.
- Reduced turning circles and narrower front end sheet metal for easier manoeuvring.
- Extensive tests of 7.50-16 tyres show an improvement of **17.3%** in mileage compared with equivalent 20 in. tyres of the same make and load capacity.

Better buy Bedford—you see them everywhere

Vauxhall Motors Ltd., Luton, Bedfordshire.

COMFORT FOR THE DRIVER

Duramin Cabs for A.E.C. Range

SPECIALLY developed by Duramin Engineering Co., Limited, Ruislip, for the current range of A.E.C. goods vehicles, though applicable also to other makes of chassis, a new range of light-alloy forward-control driving cabs offers high standards of crew comfort and convenience and durability in arduous service. The range includes curved- and flat-screen versions of an easier-access cab designed to go with the latest A.E.C. chassis, which have the front axle set back to permit a low front step height, half cabs and sliding door and sleeping-berth cabs. All are offered with a wide range of accessories providing every modern amenity.

Basic construction of all cabs follows established Duramin practice of using strong frames of high-tensile light alloy, solid riveted throughout, and exterior panelling also of high-tensile light alloy. The low front-entry cabs, suitable for mounting on the latest A.E.C. Mammoth Major and Mandator chassis are produced with two-panel flat or curved windscreens. The curved-screen version has balanced drop door windows and fixed quarterlights

New Duramin Safari cab fitted to Mark V A.E.C. Mandator tractor, one of a batch recently shipped to West Africa for logging work

and also curved glasses in the rear quarters as well as a large rear centre window. Doors of both are fully lined inside with decorative alloy kicking panel and finished flush outside without mouldings. Standard furnishing includes plastics-covered Dunlopillo-fitted driver's and passenger's seats, the driver's being fully adjustable, two adjustable driving mirrors, C.A.V. windscreen wiper, licence holders, logbook pocket, coat hook, full paint finish inside and red-oxide primer outside. The standard normal-entry forward-control cab developed for A.E.C. Mercury, Monarch and Mustang chassis is of generally similar basic construction but is notable for being available with sliding side doors as an alternative to the normal hinged units.

Safari and Sleeping-Berth Cabs

Extremely robust construction, with high fatigue resistance for operation over corrugated tracks and ease of repair using only the hand tools likely to be available in the field, have been the guiding factors in the design of the Duramin Safari cab, suitable for mounting on A.E.C. Monarch, Mercury, Mustang, Mandator and Mammoth Major Mark V chassis. The cab is framed and panelled in Duralumin, using solid rivets, simple sections and heavy-gauge flat sheet throughout. The roof panelling is extended forwards over the screens to obviate sun glare. In standard form rectangular door openings are guarded by a hinged safety bar on each side, though half or full doors or roll-up canvas curtains are available optionally. General furnishing is as for other cabs except that a passenger seat is not standard.

Duralumin framing and panelling is also used for the cab developed for the A.E.C. military O859 and O860 chassis, which is also suitable for ex-W.D. types O853 and O854. More shapely than the Safari, in that radiused corners and domed roof panel are used, this cab is furnished in similar manner to others in the range and is available optionally as a sleeping-berth cab. The sleeper version has 10 in. greater depth to accommodate a full-width bunk behind the seats; the bunk base is hinged, with locker space underneath, and equipped with a Dunlopillo mattress and the passenger seat hinges forwards for access to the bunk. Half cabs for civil versions of A.E.C. O859 and O860 chassis employ similar general construction and materials and incorporate a sliding glass panel in the nearside, a door opening protected by a roll-up canvas blind and modified bonnet cover to facilitate engine maintenance.

Weights of Duramin cabs work out at about 2½ cwt. for the half cab, Safari and standard cab for medium-capacity vehicles, 3¼ cwt. for the low front-entry types, 3½ cwt. for the military type and 4¼ cwt. for the sleeping-berth cab. Prices in standard form range from £169 for the half cab to £345 for the sleeper, those of the curved-screen low front-entry cab being £249 and of the Safari £190 to £195, while the cost of all the available extra fittings can add up to about £100.

BRITISH AIRCRAFT CORPORATION

Lord Portal to Head Board

APPOINTMENTS to the board of the new company, the British Aircraft Corporation, Limited, formed by Vickers, English Electric and Bristol Aeroplane to unite their aircraft interests, were announced this week. The chairman is Marshal of the Royal Air Force Viscount Portal of Hungerford, who was chairman of British Aluminium Company until it was taken over by Tube Investments and Reynolds Metal Company last year. Lord Portal recently succeeded Lord Kindersley as chairman of British Match Corporation and is also a director of Ford Motor Company, Barclays Bank and Commercial Union Assurance.

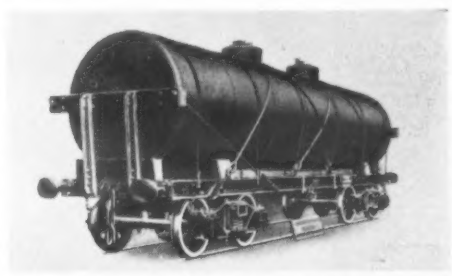
Other members of the new board are: deputy chairmen Major-General Sir Charles Dunphie (at present chairman and managing director, Vickers-Armstrongs, Limited, and chairman, Vickers-Armstrongs (Aircraft), Limited) and Mr. George Nelson (managing director, English Electric Co., Limited); director, Sir Reginald Verdon Smith (chairman and joint managing director, Bristol Aeroplane Co., Limited); executive director guided weapons, Viscount Caldecote (director, English Electric Co., Limited, and deputy managing director, English Electric Aviation, Limited); executive director aircraft, Sir George Edwards (director, Vickers, Limited, and managing director, Vickers-Armstrongs (Aircraft), Limited); financial director, Mr. W. Masterton (director, Bristol Aeroplane Co., Limited); and directors, Mr. G. A. Riddell and Mr. R. P. H. Yapp.

The British Aircraft Corporation will have a capital of £20 million, contributed £8 million each by Vickers and English Electric and £4 million by Bristol Aeroplane, and will be able to draw further on the resources of these companies. Negotiations by the corporation to acquire also a controlling interest in Hunting Aircraft have been completed and this company and the original three aircraft companies of the group will form operating subsidiaries of the corporation.

A COINCIDENTAL LINK

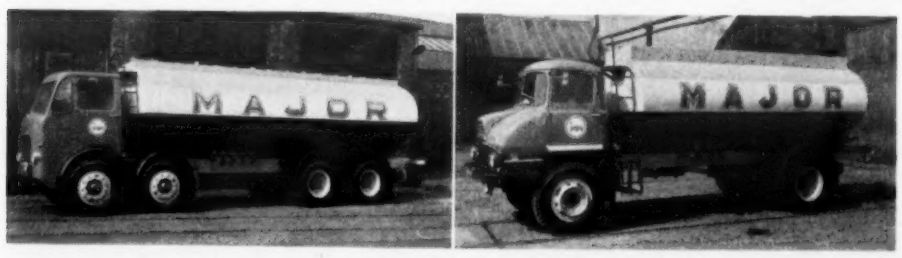
Charles Roberts Builds Road Tankers

TWO old-established commercial concerns last month strengthened the coincidental link of both having been founded in 1856 when Charles Roberts and Co., Limited, formally handed over to Major and Co., Limited, of Hull, the petroleum products distributor, two road tank wagons. Apart from symbolising the link between the two concerns the vehicles also marked visibly the new activities of Charles Roberts. The company has long been known for the construction of railway rolling stock, both freight and passenger, and its products are at work in many parts of the world. It has also, when times were appropriate, built bus and coach bodies. Now two large shops have been turned over entirely to the production of road tankers and, in the past seven months, many types



An early Charles Roberts tank was this 40-ton bogie wagon

When the Major concern commenced business in 1856 it was engaged in tar distillation and creosote production, and when motor vehicles began to appear on the roads it found itself faced also with a demand for benzole. In 1906 the business was



New road tankers formally handed over for 4,000-gal. unit and a Thames Trader of 2,100-gal. capacity Charles Roberts were this Leyland Octopus

and sizes have been produced. By the end of the first six months production rate had reached eight vehicles monthly and, encouraged by orders in hand and by prospects, it has been decided to raise the output towards a contemplated four or five a week.

The two tankers typified the variety of designs to which Charles Roberts is building. One, mounted on the Thames Trader 7-ton chassis, carries 2,100 gal. of petrol in a four-compartment elliptical tank. Two compartments hold 600 gal. each, one 500 gal. and the fourth 400 gal. The other, utilising the Leyland Octopus chassis, has a total capacity of 4,000 gal. divided equally among the five tank compartments, each of which is thus of the maximum permitted capacity of 800 gal.

formed into a limited company and shortly afterwards it began refining and distributing petrol to garages, local authorities and commercial users. The area now served from main depots at Sunderland, Hull, Leeds and Newark, lies to the east of the Pennines and extends from Newcastle upon Tyne in the north to Nottingham in the south. There is also a considerable number of intermediate depots throughout the area. A large sales staff is based in the head office at Hull and there is a technical advisory service to cope with steadily growing demand for oil-heating installations and the subsequent service. The already large fleet of road tankers is requiring considerable expansion to keep abreast of demand and Charles Roberts is playing a substantial part in helping to meet that need.

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ROAD VEHICLE INDUSTRY

Dunlop High Speed Test Facility

ALTHOUGH intended primarily to facilitate development of tyres for Mr. Donald Campbell's new car *Bluebird*, in which speeds of over 400 m.p.h. are expected to be reached, a new high-speed test machine installed at Fort Dunlop by Dunlop Rubber Co., Limited, will inevitably produce much data of great value in designing tyres for more mundane purposes. The machine, which is installed in an underground chamber, comprises a vertical drum against which the wheel and tyre assembly is pressed horizontally by a hydraulic ram. Loading up to 1¼ tons is possible of tyres up to 12 in. in section and 54 in. overall diameter, under which conditions tests up to 500 m.p.h. can be made. Unloaded, for testing tyre behaviour under centrifugal forces only, speeds up to 675 m.p.h. are possible. All testing operations are directed from a control desk in a room above ground level and operators are kept in close touch with events on the test machine and can take accurate measurements of tyre and wheel behaviour by remotely controlled Pye television cameras.

and operation at temperatures up to 150 deg. C.; Lucas batteries, which will provide for all electrical services without a charging generator in the car; Lucas fuel pumps and control system for the Bristol-Siddeley Proteus gas turbine; and Girling disc brakes. Bringing the car to rest from 400 m.p.h. in 60 sec., one of the requirements, necessitates the dissipation of 75 million ft./lb. of energy. Despite assistance of air brakes in the initial braking stages, discs will still be heated up by braking action to 1,700 deg. F.

David Brown Gearing

THE automobile gear division of the David Brown Organisation has been entrusted with the design and manufacture of the transmission gearing of *Bluebird*. All four wheels are driven through two spiral bevel reduction units mounted fore and aft of the power turbine of the Proteus engine. Differentials are incorporated but are designed for easy removal if solid drive proves desirable in practice.

Harsh Test for Disc Brakes

MUCH of *Bluebird's* equipment is being produced by the Lucas Organisation, including Lucas wiring cables designed to withstand the stresses and strains of high-speed surface travel

Holts Floor Cleanser

FROM Holts Products, Limited, the laboratory that has developed so many valuable aids for the vehicle user and repairer, now comes a new floor cleanser, which is claimed to remove even heavy incrustations of dirt and grease from floors quickly and easily. It requires only a simple sprinkle-on and wash-off routine and it is equally effective on concrete, rubber, composition, p.v.c., tile or steel and is harmless to tyres. Holts floor cleanser is packed in containers from 2 lb. to 1 cwt. and trade price ranges from 3s. 1d. for a 2-lb. tin to £5 5s. a cwt.

Paris Show Dates

ONCE again to be held conjointly at the Grand Palais in the Champs Elysees and in the exhibition halls at Porte de Versailles, despite rumours to the contrary, the 47th Paris Motor and Commercial Motor Show will be open from October 6 to 16.

Ford's New Tractor Factory

HITHERTO Fordson tractors have been manufactured exclusively at Dagenham, but in view of the tremendous increase in demand for all the company's products it has been decided to move tractor operations from Dagenham and concentrate them in a new factory to be built at Basildon, Essex. A 10-acre site there for the purpose is close to the industrial areas of the new town and a start will shortly be made in the building of a completely new 1,000,000 sq. ft. tractor factory at an estimated cost of £10 million. Staffing of the new factory will be met by those at present employed on tractor production at Dagenham. The fact that Basildon is only 20 miles from the Dagenham factory will make it possible for many to work at the new location without moving their homes. Ford Motor Co., Limited, contributed to the development of Basildon new town by the establishment there in 1954, on a 17-acre site, of a general engineering factory, which now employs 1,100.

Seat Backrest

NAMED Sit Rite, a new vehicle seat backrest comprising a flexible steel frame and a resilient woven fabric has been introduced by Key-Leather Co., Limited. It is claimed to be far superior to any other type of backrest and the only one to be approved and recommended by the medical profession for back sufferers. Its mesh fabric is said to reduce fatigue by ensuring correct posture, while its mesh weave permits circulation of air and prevents stickiness experienced in hot weather through close contact with the seat squab.

Leyland Albion (Africa) Service

HOLDING of spare parts and other items for servicing Leyland Group vehicles in southern Africa by the Leyland Albion company at Elandsfontein, near Johannesburg, has now reached a value of £2 million, or one-third of the total Leyland investment in that area. There are now over 12,000 Leyland, Albion and Scammell vehicles in regular use in the territory, so that the investment in service back-up represents about £170 per vehicle. The company recently issued an illustrated booklet showing how the spares position is linked with service facilities and how operators in even remote bush regions or desert conditions can obtain proper service.

First Leyland Super Comet of an order for 80 ordered by the Venezuelan Ministry of Public Works. Leyland O375 diesel drives through six-speed gearbox and two-speed axle and bodywork and tipping gear are locally built in Caracas

Foden HGTU6 25 l.w.b. tractor in Australia—Gardner 6LX-powered with Foden 12-speed epicyclic transmission and tropical cab—one of over 100 Fodens supplied through Diesel Motors (Pty.), Limited, to Australian Blue Metal; right, unusual refuse collector in use by Rotterdam Municipality, based on a Perkins P6-engined Seddon chassis with Netam moving-drum body by Kemper en van Twist, Dordrecht

Unbreakable Drip Trays

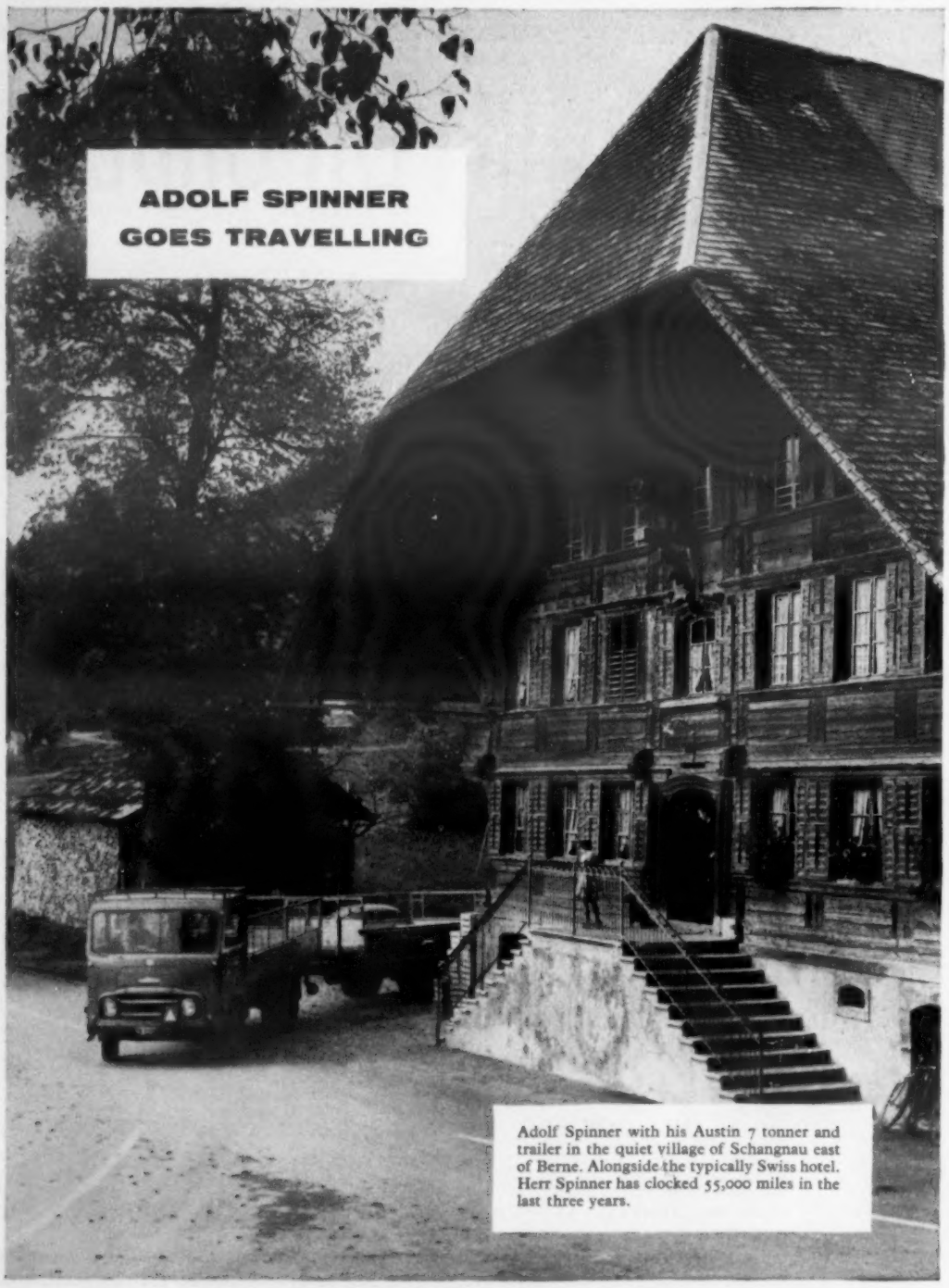
PLASTICS drip trays, light and easy to handle yet claimed to be virtually unbreakable even when driven over by heavy vehicles, are being manufactured by S. C. Errington (Hanwell), Limited, Uxbridge Road, London, W.7. They are made of white Flovic p.v.c. copolymer foil in two sizes, 33 in. by 24 in. and 26 in. by 24 in. A company or product name or a sales message can be printed or moulded into the trays.

Perkins Flame-Proofed Engine

DESIGNED for installation in flame-proofed vehicles and industrial equipment is a new three-cylinder diesel engine introduced by Perkins Engines, Limited. Named Perkins Three 152 (Flame-proofed), it is built to comply with Ministry of Power flame-proofing requirements for equipment for mines and other sites where explosive dust or gases are present. The new engine has been chosen by the Hunslet Engine Co., Limited, to power its new MT25 mines tractor, in which it develops 29 b.h.p. at 1,650 r.p.m.

New B.P. Road Surfacing Material

A NEW type of road surfacing material tested successfully by British Petroleum Co., Limited, in Norway during the recent winter months consists of gravel mixed with "road oil," the latter material resembling heavy fuel oil in appearance. This type of surfacing is particularly suited to areas with little money for road construction work, where it provides a low-cost surface for existing untreated roads. In Scandinavia, and other areas of similar climate, oiled gravel has the additional merit of remaining flexible even at very low temperatures, enabling it to resist frost damage. Trial batches of oil were prepared at the B.P. group's Hamburg refinery and experimental stretches of road were laid at two sites in Norway. These trial surfaces are reported to be in excellent condition after the winter; B.P. is now to participate in the supply of the first quantity of road oil to be used by the Norwegian State Highways Board and is also investigating other market prospects.



Adolf Spinner with his Austin 7 tonner and trailer in the quiet village of Schangnau east of Berne. Alongside the typically Swiss hotel. Herr Spinner has clocked 55,000 miles in the last three years.

The business of loading hand-made 'shingles'—thin slats of wood used for roofing—begins. Herr Spinner is a well-known figure in the valleys, exchanges greetings everywhere he goes.

The remarkable wooden bridge at Langnau, heavily protected against snow fall. Herr Spinner was once snowed-in in his Austin for 7 hours not so very far from here.

How an Austin 7 tonner gets a job done in Central Switzerland

IN THESE PICTURES you see an Austin truck doing a tough job of work in Switzerland. It's a 7 tonner and it belongs to Herr Adolf Spinner of Obfelden, who uses it in his roof-material business. Often this truck and the trailer behind carry 9 and 10 tons of timber: and the truck alone has been over the Alps via the St. Gotthard Pass.

This Austin typifies the solid job that's being done by Austin trucks and vehicles throughout Europe as well as in Britain and the other continents of the world. Just how pleased its owner is you can judge from his remarks: "This Austin gets very heavy use. It must carry heavy loads up and down hills and mountains. But it runs excellently. If I were were buying another lorry, I wouldn't hesitate for a moment to buy an Austin."

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WHY SHOULD THE RAILWAYS' CAPITAL BE WRITTEN DOWN?

Is it a Form of Subsidy?

By C. D. FOSTER, Senior Research Fellow in the Economics of Transport, Jesus College, Oxford

WHY should the railways' capital be written down? Because it would be right to do so? Or just? As a respite? Or just to give the railways a subsidy by another name? And what is entailed in the writing down of capital? I submit that it is indefensible to think of it except as a form of subsidy which has an advantage and disadvantages of its own that are not themselves widely discussed. And also that it is not wholly clear what is involved.

Effects of Writing Down

Firstly, the writing down of capital is not synonymous with relieving the railway of the obligation to pay interest on that capital. If some capital were written down, let us say for convenience, to zero, this would mean that if the railways were for some as at present unforeseen reason able to make a profit immediately, this profit would seem larger since it would appear as a rate of profit on a smaller capital. But this is not relevant to British Railways at present nor is it likely to be so for a few years. It is quite possible that British Railways will show a profit before the completion of the present modernisation plan. It is also possible that it will not.

As long as there is a loss the writing down of capital will make the same absolute amount of loss seem larger because it will appear as a higher rate of loss on the smaller capital. Therefore the argument cannot be that writing down the railways' capital would even be to their apparent advantage by itself as window-dressing. It must be that some relief from the payment of interest charges is desired and this is held to be a method of justifying such a subsidy.

Subsidy

It would not make the slightest financial difference to the railways if an open, obvious subsidy of some £40 million a year was paid to them by the Government; or if they were relieved of an equivalent sum in interest charges. Neither will it in itself alter the extent of the subsidy the Government will pay. It sounds well to say that the Government will take over some or all of the burden of past interest charges but will stop at that, thereafter letting the railways operate commercially. Nevertheless if the railways continue to have a deficit over and above the value of this relief, the Government will have to meet it, unless of course it forces the railways to restrict output or raise prices to eliminate the further deficit immediately.

The prime disadvantage of employing this form of subsidy is that the amount of subsidy is arbitrary and has no economic justification. A justification frequently attempted is that the railways are bankrupt and that it is realistic to treat them so and write down their capital by analogy. But this is a false analogy. When a private firm goes bankrupt its shareholders suffer a capital loss. In effect they subsidise those who buy their company's equipment and stock by the difference between the cost of that equipment and stock, allowing for depreciation, and the price at which it is bought. The argument is that since there is none to whom the railways can be sold and that it is not possible to default on payments to stockholders, the nation should stand this loss not as a capital sum but as an obligation to pay interest to the railways' creditors, the owners of British Transport Stock.

Fallacies

Such is the analogy, but it is false at two points. Firstly, the nature of the first fallacy depends upon what capital it is suggested should be written down and to what extent. Do we think that all capital assets acquired by nationalisation should be written down to zero? Or that all permanent assets should be written off because they will never have to be replaced as Mr. G. J. Ponsonby argued in his letter to *The Times* on February 13? Or do we say that all "non-revenue-earning assets" should be written down to zero on the grounds that an asset which does not pay the railways has no value? If we say that they should be written down but not to zero, on what principle do we decide the correct figure at which an asset should stand in the books?

If we advocate any of these policies we are making the assumption that the value of a railway asset is its value to the railways, while it is in fact its value to the railways *or* in its most profitable alternative use, whichever is the higher. Now it may be the case that some tunnels, some buildings and some track have no value to anyone except the railways, but this is not true in general. There must be many assets which do not earn the railways revenue but have an alternative use value. To give one example, some unprofitable track must have a value for road building. But if we write down all or a large part of the capital value of revenue-earning assets because of their permanence or age, we will be giving many assets a book value below their market value.

No Takeover Bid

When a private firm does this, as, for instance, when as in a recent case, a firm of brewers undervalues a brewery, the firm is ripe for a takeover bid. That is the proper analogy. Because it is not possible for the railways to be taken over in this way, this does not justify a valuation of railway assets by what they are worth to the railways rather than by what they would be worth in their most unprofitable alternative use. A bankrupt firm, be it noted, does not value its assets at zero, but at what it can get for them.

Secondly, the railways are not bankrupt. A bankrupt firm is one which cannot meet its financial obligations whatever its scale of operations. It is not considered bankrupt because it produces, let us say, 100,000 tons of steel ingots a year at a loss though it would make a profit if it cut its output to 50,000 tons. Such a firm has *excess capacity* and if it is wise it either sells off the capacity it cannot use profitably or it holds on to it if it believes that demand will increase and that in the long run it would be more profitable to bring this excess gradually into use rather than sell it and have to invest to expand capacity later.

Possibility of Breaking Even

None denies that there is some level of output at which the railways could meet their present financial obligations and make a profit. (If they are under moral suasion to keep freight charges and fares down, they will have to reduce output more than if they feel free to charge what the market will bear.) So the analogy with bankruptcy breaks down once more.

What are we left with? A subsidy. Not a subsidy to a bankrupt industry to set it on its feet by paying the difference between the market value of its assets and their cost, allowing for past depreciation. (If the railways were to try to value their assets at what they would fetch if sold, the result might surprise us. The site value of urban, particularly London, track, stations and goods yards must be high.) But a subsidy to the railways to maintain a scale of operations greater than they would maintain if they were moved by commercial considerations only.

Political Expediency

And this is where this particular form of subsidy reveals its arbitrary basis and extent. Suppose the Government does decide to subsidise the railways, as a permanent feature of our economy. What one would hope for is some judicious, carefully thought out decision that, let us say, all or some of the railways' unremunerative services are worth subsidising to the extent of £x million a year. That is their value to society. That is what the nation can afford. But that this £x million should be the same as the relief given to the railways if the Government takes over a burden of paying interest charges would be the merest and most unlikely coincidence.

Why should the Government decide that *this* is the amount by which the railways' unremunerative services should be subsidised? On what rational grounds? Only I think because this form of subsidy might be politically feasible while an open subsidy would not. Perhaps this is sufficient reason for a subsidy to take this surreptitious form and to be of this arbitrary amount. But let us not deceive ourselves into thinking it *right* or *just* or *justifiable* except on the grounds of political expediency.

Two publications now available from Stanley Works (G.B.), Limited, Rutland Road, Sheffield, 3, are *Screwdriver Know-How*, an illustrated guide to the selection and care of screwdrivers for general use, and *Phillips Screwdrivers and Screwdriver Bits*, which describes the range of Stanley Phillips tools for mainly industrial use.

Institute of Transport visit to Reading, Western Region: a diesel-hydraulic locomotive hauled the train; lifting barrier demonstration in the signal works; below, the diesel railcar maintenance shed; and, right, in the signal shops

Type 2, Main Line, 1365 h.p. Diesel Electric Locomotives by Brush Electrical Engineering Co. for British Railways are being equipped with

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NEWS FROM ALL QUARTERS

Ticket Machine Trials

The Midland "Red" company is experimenting with Almex ticket machines. After a trial on a double-deck Birmingham suburban route they are now being used on a one-man country service.

Eastern Region Stations

On and from June 13, two stations on the Liverpool Street—Bishop's Stortford line will be renamed, as foreshadowed. Burnt Mill Station, now more suitable for Harlow New Town, becomes Harlow Town and the new name for Harlow Station will be Harlow Mill. Chettisham Station will close from the same date.

Gratuity Paid Out of Compensation

Employees of the Ceylon Transport Board are to receive immediately a further 25 per cent of the gratuity due to them for service rendered during the period of employment under private bus operators prior to nationalisation. This second instalment means that half of the Rs.5 million has been distributed. Where does the money come from? It is deducted from the compensation to be paid to bus operators whose services were taken over.

Fruit via Zeebrugge—Harwich Train Ferry

The Eastern Region has announced a new fast service for fruit and vegetable traffic from Chiasso in Italy, via the Zeebrugge—Harwich train ferry, in June this year. Hitherto it has not been possible to effect delivery to the London market until early in the morning of the third day after dispatch. Now delivery will be possible within 48 hours. The train will arrive at Zeebrugge only 23 hours after leaving Chiasso and will be available for unloading at midnight on the second day at Bishopsgate.

Films on Materials Handling

The National Joint Committee on Materials Handling, a co-ordinating committee of professional and other non-trading research and development associations interested in materials handling, published in 1958 a list of films on materials handling, giving size, running time, a brief synopsis, and the source from which each may be obtained. The list has now been revised and considerably augmented to include particulars of approximately 100 films. Copies, price 2s. post free, may be obtained from the secretary, National Joint Committee on Materials Handling, 32 Watling Street, London, E.C.4 (City 7045).

Dartford—Purfleet Tunnel Progress

Workmen are now busy waterproofing the lining of the Dartford—Purfleet road tunnel before beginning the work of laying the concrete road deck. The Minister of Transport will shortly invite tenders for the construction of the southern approach road to the tunnel. There will be a two-level junction with Princes Road (A2) with underpasses and slip roads to eliminate cross traffic. From this junction, the road will curve northwards to the tunnel entrance. It will pass under Watling Street (A296) and London Road (A226), and over the North Kent lines of British Railways and railway sidings. Near the tunnel entrance, the road will widen into a toll plaza, designed for traffic to stop and pay tunnel tolls.

Research in Road Injuries

The Automobile Association has agreed to sponsor the establishment of a road injuries research group in conjunction with the Institute of Accident Surgery at the Birmingham Accident Hospital, and has set aside the sum of nearly £30,000 to finance the research group over a period of seven years.

Railroad Merger Fever in U.S.A.

Recently there has been a flurry of mergers, proposed or actual, in the United States railroad industry. The Baltimore and Ohio has accepted a bid made by the Chesapeake and Ohio, and the Norfolk and Western is considering a union with the Nickel Plate Road (the New York, Chicago and St. Louis Railroad). Merger of the Erie and the Delaware, Lackawanna and Western is awaiting I.C.C. approval and several others are at the talking stage.

No Increase in Long-Distance L.M.R. Fares

The London Midland Region announces that there will be no increase of its long-distance fares for journeys of over 275 miles nor for sea journeys or through journeys to and from Northern Ireland, Eire, and the Isle of Man. Other fares that will remain unaltered are mid-week return fares, the Starlight Special fares to Scotland, car sleeper service fares and fares to and from the Channel Islands. Furthermore, holiday runabout tickets will be maintained at the present rates.

Rail Palletisation Down Under

Five hundred new railway wagons at present under construction in England for New Zealand Railways have been specially designed for the conveyance of goods loaded on pallets. They will have double sliding doors on each side to give a maximum opening of almost 10 ft. The floor dimensions are such as to make it possible to accommodate either 12 40 in. by 40 in. pallets or 10 48 in. by 40 in. pallets, two sizes that have been in common use. The New Zealand Standards Institute has the question of standardisation of pallet sizes under examination.

Position of S.A.R.

The Minister of Transport in South Africa officially opened the Broughton-Cedara twin tunnels—the longest in the Union—which have cost £4 million and had taken five years to complete. They will shorten the distance between Pietermaritzburg and Ladysmith on the main line to Johannesburg by 18 miles. The Minister said that in 1954 South African Railways went through a transport crisis when it was found that millions of tons of freight could not be handled. The problem was tackled by building new lines, extending the electrification system and getting over the staff problem by spending £25 million on houses for railway workers within the space of five years. In 1955 he had made 1961 the target date for the railways to be capable of handling all traffic. The target was reached 18 months earlier and now the railways could handle everything offered—and more. He added that as far as he was aware South African Railways was the only state-owned railway in the world which could balance its budget without a subsidy from the central government.

Pressed Steel help modernise railways at home and overseas

In the last ten years Pressed Steel have produced over ninety thousand units of rolling stock for railways at home and overseas. Pressed Steel possess the equipment and the know-how to make rolling stock of any type for any gauge anywhere in the world.

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Head Office: RAILWAY DIVISION—LINWOOD FACTORY, PAISLEY, SCOTLAND. *London Office:* RAILWAY DIVISION—47 VICTORIA STREET, LONDON, SW1. *Registered Office:* COWLEY, OXFORD. *Brussels Office:* CANTERSTEEN 7, GALERIE RAVENSTEIN 30, BRUSSELS 1, BELGIUM. Pressed Steel Company are also manufacturers of motor car bodies, Prestcold refrigeration equipment and pressings of all kinds.

Diesel Multiple Unit made by Pressed Steel for British Railways

COMMERCIAL AVIATION

T.W.A.—Northeast Talks

AVRO 748 TESTS

AS recorded briefly in our last issue, a merger of Northeast Airlines with Trans World Airlines to provide a more efficiently integrated air transport system for the public is under consideration, it has been announced jointly by Messrs. James W. Austin, president of Northeast, and Charles S. Thomas, president of T.W.A. The announcement followed a meeting of the Northeast board of directors, which approved such a merger on the basis of an exchange of three shares of Northeast stock for one of T.W.A. Northeast's proposal is being studied by the T.W.A. board. T.W.A. operates a coast-to-coast network to 70 cities in the United States and extends across the North Atlantic to 23 centres in Western Europe, the Middle and Far East. Originally a New England regional carrier, Northeast in 1956 was granted route extensions from New York to Philadelphia, Washington and Florida. Since that time, its traffic gains have exceeded the industry average for three successive years. Among the advantages of a merger would be the ability to schedule equipment in response to seasonal traffic demands. The proposed merger will be subject to approvals by the Civil Aeronautics Board, the Securities and Exchange Commission and senior creditors and stockholders of Trans World Airlines. Northeast has also announced that it has concluded arrangements with General Dynamics and General Electric for early delivery of six Convair 880s to complement its present fleet of 31 turboprop and piston-engined aircraft. The new Northeast Convair 880s are part of an order for 30 originally placed by the Hughes Tool Company, which is wholly owned by Howard Hughes. The early delivery to Northeast was made possible by consent of the Hughes Tool Company, which will also lend the airline up to $9,500,000 for jet integration expense and other working capital. Mr. Austin said that Northeast plans to have these six 880s in full operation along its east coast routes to Florida before the winter season. Twenty 880s will go into service on T.W.A. routes this summer, augmenting a fleet of 190 aircraft which includes 15 Boeing 707s and nine Boeing 707-331s. One more of the latter is scheduled for delivery soon.

Viscounts with Northeast

Northeast operates a fleet of 10 Vickers Viscount Type 700 air liners and, in reporting its busiest April in its 27-year history, gives much credit to the British in the achievement of this record traffic. The airline carried in the one month over 124,000 passengers and flew over 55 million revenue passenger-miles, an increase of 19.5 per cent over the figures for April, 1959. The load factor on the airline's Viscounts climbed to a new record of 68.5 per cent and the system load factor (58.4 per cent) was 7.8 points up on the previous year. The Viscounts provide a commuter service between Boston, New York, Philadelphia and Washington and also operate between Boston and Montreal. Viscount traffic between Washington and Boston in the first three months of 1960 showed a 20 per cent increase over 1959 and 18 daily round trips (mostly by Viscount) are now operated between those cities. Six services are non-stop, and the other 12 are via New York. From Boston, Northeast reports a 55 per cent increase in Viscount traffic on the New York route for the first quarter of the year. The schedules have had to be increased to 21 round trips a day. The increase in traffic onward from New York to Washington has been 30 per cent.

Southampton Airport Moves

A new move has been made to avert the threatened closure of Eastleigh Airport, Southampton. A group of local business men has opened negotiations with the Ministry of Aviation in a bid to acquire the aerodrome, develop it as necessary, including the provision of a hard runway, and attract more airline traffic to it. The group feels that it is vital for Southampton to have its own airport, and also considers that it could be a good investment. It hopes to acquire the airport while it still has a considerable amount of airline traffic. An alternative scheme—for the airport to be taken over by Southampton Corporation, the prewar owners—is advocated by Southampton Chamber of Commerce.

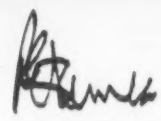
Swissair Caravelles to London

Daily jet flights from Switzerland with Caravelles started on May 21, with the Swissair introduction of this Rolls-Royce powered aircraft on its Super Swiss service between Zurich and London. There are two departures from London daily, leaving at 11.30 and 19.05 hr. Caravelle night tourist services between London and Zurich are expected to start next month, subject to government approval being received. Until then night flights between the two cities will be operated with existing equipment. From July 15 Swissair will operate daily Caravelle services to the Middle East and also between Switzerland and Scandinavia, while Madrid, Lisbon and Vienna will be served by these jets from August 16. In all, Swissair is putting four Caravelles into service in the course of this summer. Except for all-tourist night services, they will offer 20 first- and 50 tourist-class seats.

Avro 748 Structural Tests

At the Chadderton works of A. V. Roe and Co., Limited, a programme of testing which will ultimately cost £250,000 commenced on May 19 on the Hawker Siddeley Group's new Avro 748 air liner. Whilst the first Avro 748 is rapidly nearing completion and the first flight date approaches, the fuselage of a second aircraft has been put into a test tank at Chadderton to undergo fatigue tests under water. The 68-ft. long steel tank will hold 70,000 gallons of water and the initial testing will be done at the rate of three simulated flights per minute to reach a total of over 10,000 flights. Six similar flights representing the aircraft climbing to a height of 25,000 ft. and readings of over 800 gauges attached to the fuselage will record the strain. Once the initial programme is completed the fuselage will be tested beyond the loads for which it is designed, and finally tested to destruction on the static structural test bed at A. V. Roe aerodrome at Woodford. Its place in the water tank will then be taken by another fuselage which will have the wings and tail attached. Complete flight simulation from take-off to landing will be undergone so that, in six months, this specimen should be subjected to stresses and strains equivalent to those which would accumulate in 20 years of flying.

B.T.C. ACCOUNTANT



Mr. P. G. JAMES, B.Com.(London), F.S.A.A., M.Inst.T.

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As recorded elsewhere in this issue, the British Transport Commission has appointed Mr. Philip Gavid James to be chief accountant from May 23, with general responsibility for accounting, costing and audit matters. This follows the appointment as assistant general manager, London Midland Region, of Mr. F. R. Stockdill, chief general accountant in the finance department at B.T.C. headquarters. Mr. James has been chief financial officer of the London Transport Executive since November, 1950, when the post of chief accountant, which he had held since 1947, was retitled. Aged 55, he was articled in 1921-26 and, in 1927, entered the service of Messrs. Deloitte, Plender, Griffiths and Company with whom he was engaged on audits of the Underground group of companies and subsequently of the London Passenger Transport Board. Late in 1934 his services were lent to the L.P.T.B. for a special accounting job and in May, 1935, he entered its employ in the office of the assistant to the comptroller and accountant. In February, 1939, he was appointed an officer of the Board as assistant to the chief accountant and 15 months later became accounts officer. Subsequently he was made accountant in 1945 and chief accountant in 1947. Mr. James is the author of several papers on accountancy, including one on training staff for an effective management accounting system, giving in September, 1952, at Balliol College, Oxford, under the auspices of the Society of Incorporated Accountants. In October, 1954, he was a British Transport Commission delegate to the British Institute of Management's international conference at Torquay. He has been called upon to give evidence before the Transport Tribunal in connection with various applications for fares increases. Early in 1956 Mr. James was appointed, as British Transport Commission representative, to the boards of Maidstone and District Motor Services, Limited, and its subsidiary, the Hastings Tramways Company, which was subsequently absorbed by the parent. He is a fellow of the Society of Incorporated Accountants and Auditors and a member of the Institute of Transport.

IN PARLIAMENT

End of Diesel Records in Sight

TAXATION OF WORKS BUSES

CLAUSE 9 of the Finance Bill, which was passed without debate on Wednesday last week, empowers the Government to colour heavy oils which are tax free. This paves the way to relief for diesel road vehicle operators from the tedious and pointless keeping of records of the use of diesel fuel oil.

Taxation of Works Buses

Clause 10 was also passed. This is to rectify a situation which has arisen out of the long-term hire of buses or coaches to, for example, public works contractors for the daily travel of their employees. At present such a vehicle which is let on hire for more than three months may, by virtue of the Vehicles (Excise) Act, 1949, be taxed at the private car rate of only £12 10s. per annum.

MR. JOHN HAY, the M.o.T. Joint Parliamentary Secretary, said the system had become unworkable because vehicles were substituted from time to time on the contracts. In one case an operator was able to claim a refund of £6,000 in licence duty. There was no reason why a bus hired for more than three months should pay a lesser rate of duty than one hired for a shorter period, or not hired at all. In future vehicles hired under this class of contract would have to pay duty appropriate to the seating capacity; those with 20 seats or less would, however, pay duty at a slightly lower rate than at present.

Nuclear Cargo Vessel

In response to a question about our advance towards the nuclear-powered merchant ship, MR. ERNEST MARPLES recalled that he had recently invited tenders from five firms for two types of nuclear reactor suitable for installation in a tanker of 65,000 tons deadweight. The closing date for the receipt of tenders is July 29. The decision whether to build a tanker, and which type of reactor it should have, will be made in the light of what the tenders disclose and of progress with other types of reactor which show promise of application to shipping.

MR. E. SHINWELL asked whether the Minister contemplated on behalf of the Government building a ship at Government expense. Did he intend that the Government should build the ship, or was it contemplated that it would be built by private shipowners or shipbuilders, and if so, had he any idea where they would get the money to build the ship? Mr. Marples countered that such considerations came later. The first thing to find out was the result of the tender which had now been put out for the nuclear reactor.

Who is to Pay for It?

MR. HUGH GAITSKELL: "Is this not a very puzzling situation? The Minister has invited tenders, but he has not told us in the least what he might do when the tenders are received. What is the situation? Are we to suppose that private shipbuilding firms may put in tenders and then the Government may say, 'We are not going to do anything about this but just leave it as it is'? The right hon. Gentleman must give us an idea of what is in his mind. Are the Government to build the ship? Are the Government going to invite private shipping companies to tender, or what?"

With each party manoeuvring to win advantages for its own airlines without making comparable concessions, it is not surprising that it was found impossible, as announced this week by the Ministry of Aviation, to reach agreement in the recent discussions between British and United States government representatives on revision of the route schedules agreed at Bermuda in 1946. The discussions began in February in Barbados and were resumed in Washington at the end of April. No decision has been reached as to the holding of further talks.

Designed with the active collaboration of the girls themselves, a new uniform introduced this week by British European Airways for its stewardesses and traffic girls makes a final break with any suggestion of military influence. Said to suit almost any variant of the female figure, to be functionally practical and unlikely quickly to become outmoded, the new uniform comprises summer- and winter-weight worsted hip-length jacket, straight skirt and neat hat in a tiny blue-black check and a proofed wool-gabardine single-breasted raincoat with metal-insulated lining in an attractive shade of red.

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B.E.A.M.A. YEAR

More Records Achieved

IN the 49th annual report of the British Electrical and Allied Manufacturers' Association, introduced by its director, Mr. S. F. Seward, it is stated that it has become axiomatic for the electrical industry each year to establish new records. Last year was no exception; output reached a value of about £1,400 million—a 9 per cent increase over the previous year. The industry's position as a leading exporter was retained, with a total value of exports of £285 million, representing over 10 per cent of the country's total export of manufactured products and a £9 million increase over the 1958 total. The year was also marked for showing the first fruits of British Railways long-term electrification plans when the first operational 25 kV electric locomotive was put into service.

The report said that the long-term prosperity of the electrical manufacturing industry should be assured by the inevitable growth of demand for electrical power throughout the world, which British manufacturers, through technical development and efficient production, were well equipped to meet. It added the warning that price competition had become keener and that the trend towards narrowing profit margins seemed likely to continue, putting a premium on efficiency. In news of the B.E.A.M.A. sections, it was recorded that the electric traction section was co-operating closely with the British Transport Commission in all aspects of British Railways modernisation. The section was also playing a major part, with the Locomotive and Allied Manufacturers' Association and the B.T.C., in the organisation of the B.R. electric traction conference and exhibition to coincide with the opening of the Crewe—Manchester electrification in October next.

Thornycroft-B.T.C. Articulator on Test

(*Continued from page 5*)

rear corner glasses, affording really excellent all-round visibility, a comfortable fully adjustable driver's seat, two good rear-view mirrors, a four-headlamp set, parcels and document shelf, ash-trays, coathooks, a pedal light and a cab lamp incorporating a reading-light lens. To the order of the customer for this particular vehicle, Mirrlees, Bickerton and Day, Limited, the industrial diesel engine manufacturer, the optional Smiths 3½-kW fresh-air heater-demister and C.A.V. heavy-duty windscreen wipers with 14-in. arms and blades were also fitted. Also to the customer's specification, the front bumper had been lowered slightly and the radiator grille raised from their standard positions to make room between them for an illuminated Mirrlees name panel.

Smooth-Riding Combination

The test was carried out in the Basingstoke area and covered 70 miles in all in the town and outlying districts. Because of comparatively light loading of the front axle, the optional steering servo was not specified and was certainly not required, for the steering was comparatively light and the outfit could be taken through average roundabouts, for example, at an economical pace without undue effort or the feeling of running out of road. The effect of the loaded trailer on the steering could occasionally be felt on corners, depending on the manner of approach, but this was never disconcerting and was far less pronounced than we have experienced with some more lightly loaded vehicles. Praise is due to Thornycroft for the tractor front suspension, which incorporates specially rated dampers, and to British Trailer Company for the sprung coupling, which in combination provided as smooth-riding an articulated vehicle under all driving conditions as we have experienced.

Contribution to this general impression was no doubt made by the adequate power and quiet performance of the 130-b.h.p. engine and by the smooth clutch action and easy gearchanging, with economical lever movement, in the Thornycroft all-constant-mesh gearbox. The six-speed overdrive box in combination with the lowest of three available axle ratios (6.83 to 1) had been specified and it was our impression that the vehicle was rather undergeared. With the available power from the QR6 engine, it is doubtful whether there would be any sacrifice of performance with the 6.14 to 1 axle even in hilly districts, while with vehicles operating mainly in trunk service there would certainly be a measurable gain in fuel economy. The third 5.375 to 1 axle would probably be too high for general application, but might be used advantageously in vehicles operating extensively at lighter loadings or in predominantly flat country. A further option of the Eaton 18800 dual-range axle, with ratios of 5.14 and 7.02 to 1, provides the very wide ratio spread necessary for optimum operating efficiency in tractors hauling widely fluctuating loads or used partly on and partly off the road.

Notwithstanding the rather low axle ratio, the vehicle tested had a top speed in overdrive of over 45 m.p.h. and about 38 m.p.h. in direct drive and acceleration up to these speeds in suitable conditions was rapid. Averages of the times taken to reach 20 and 30 m.p.h. from rest in four runs, two in each direction, were 14.7 and 31.2 sec. respectively, while the excellent high-gear performance, which in practice meant that a great proportion of normal driving could be done in overdrive, can be judged from the average times of 12 sec. and 28.5 sec. taken to reach 20 and 30 m.p.h. respectively from 10 m.p.h. in direct drive. Hill-climbing was equally impressive; although the steepest gradient tackled during the test was Farleigh Hill, the loaded vehicle was restarted on its 1 in 8.4 gradient in second gear with very light throttle, indicating a gradient ability in first of about 1 in 4.

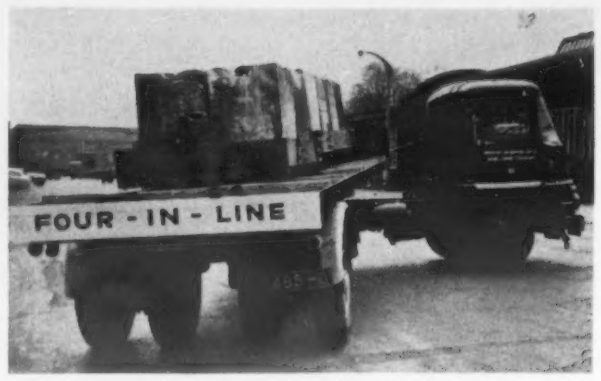
Low-Delay Brakes

Much work has been done in the design, particularly of mechanical linkage and operating cams, of the trailer brakes jointly by Girling and British Trailer Company with the object of reducing delay to a minimum. Short of employing electrical operation of the trailer-brake air valve, with which progressive reaction is more difficult and costly to achieve, the system appeared virtually to have beaten the delay bogy, as was demonstrated in a series of simulated emergency stops. In carefully measured stops from 30 m.p.h. on dry tarmac, the best distance recorded was 55 ft. from the point of contact with the pedal and the longest 58 ft., both markedly better than with many similarly loaded articulated vehicles. Tapley meter readings in these stops ranged from 80 to 94 per cent, while the Don meter showed 70 to 72 per cent.

A fade test was conducted during a descent of Farleigh Hill and consisted of driving the vehicle for about three-quarters of a mile in fifth gear on full throttle down the slope while checking the speed to 20-25 m.p.h. by braking. After allowing speed to run up to 30 m.p.h., an emergency application produced 79 per cent on the Tapley meter, indicating the virtues of providing adequate specific lining area (55 sq. in./ton laden), good drum material and design and selecting reputable fade-resistant linings (Ferodo DM8 tractor and Don 55 trailer), which combine to resist the effects of this type of abuse. The single-pull handbrake used alone from speeds around 20 m.p.h. produced Tapley readings of 29-34 per cent and in practice it held the loaded vehicle comfortably on 1 in 8½. Its probable holding limit with 20 tons, properly adjusted, is about 1 in 5, but a separate hand air valve under the steering column operating the trailer brakes independently can be used to supplement the handbrake. The independent trailer brake used alone from 20 m.p.h. produced 32-37 per cent on the Tapley meter and also held the vehicle easily on 1 in 8½.

Fuel Consumption

Fuel consumption was checked travelling in both directions over a 15-mile stretch of A30 between Basingstoke by-pass and Blackbushe. The eastward run, which included some good slogging upgrades, was completed at an average speed of 30 m.p.h. for 10.2 m.p.g., while the return 15 miles was covered at 31 m.p.h. for 10.5 m.p.g. A feature of the run was the number of times realisation of the full performance of the Mastiff was thwarted by slower commercial vehicles and, even with its present gearing, we are satisfied that it could have done better, perhaps by 1 m.p.g., in true open-road running with room to overtake slower vehicles, while with use of the 6.14 to 1 axle there would probably be still further gain in fuel economy without performance penalty. Overall fuel consumption for 70 miles of mixed driving, which included a good proportion of stop-start and full-throttle low-gear work in climbing, acceleration and braking tests, worked out at 8.8 m.p.g., fairly representative of what the tractor would do hauling 20-ton gross weight in frequent-stop service.



The complete vehicle could be turned comfortably in a swept turning circle of 48-ft. diameter

Generous stepring and handgrips, flat-topped wheelarch and wide square door opening make for easy access, the right leg crooking naturally over the handbrake lever

There is a satisfaction in driving a commercial vehicle with a power unit well up to its job and it is certainly far less tiring, mentally and physically, for the driver. Apart from the lesser amount of work with the clutch and gear lever, noise level is generally lower and no conscientious driver can regard the building up of long queues behind his crawling vehicle with equanimity. Moreover, there is usually a substantial gain in engine and transmission life when engine power is adequate and there is less temptation to fiddle with fuel pump settings, with its concomitant nuisance of exhaust smoke, to gain extra power. The Thornycroft effort with the ML QR6 and the Super Freighter is a worthwhile one which we are sure it would be in the general interest of goods vehicle operators to encourage.

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ENGINE EXCHANGE

Rolls-Royce Scheme for Rail-Traction Diesels

MODERN trends in railway traction maintenance are towards replacement of complete components rather than piecemeal repair—a system common in road transport for many years—and Rolls-Royce, Limited, has now introduced the practice for its diesel engines in railway service in the United Kingdom. The scheme envisages agreements between users and Rolls-Royce under which the manufacturer will make sure that fully reconditioned and guaranteed engines of the correct rating are held in readiness at the factory for swift delivery on demand.

There is a standard price for replacing an engine, which varies according to type but will be known to the customer from the time he enters into the agreement. If due allowance is made for all the indirect costs of overhaul at own workshops, Rolls-Royce says that it will be found cheaper as well as more convenient to exchange engines under the scheme. Standard price, although it does not include the cost of some specific items, such as crankshafts and cylinder heads, if those are so damaged as to be unsuitable for re-use, helps in forecasting maintenance budgets, especially as the probable life of the engine in various applications is known from details published in Rolls-Royce literature.

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FORTHCOMING EVENTS

Until May 28.—Instruments, Electronics and Automation Exhibition at Olympia.
May 28.—O.S. (Northern). Annual coach tour to Lake District.
May 28—June 3.—L.R.T.L. Visit to Switzerland.
May 31.—I.R.T.E.(Met.) Day Visit to brewery of Watney, Combe Reid and Co., Limited.
O.S. A. W. McCall, "London Transport in St. Albans 1933-1959." Victoria Coach Station, S.W.1. 6.45 p.m.
June 4-5.—H.C.V.C. Fourth rally. At Beaulieu.
June 4-6.—L.R.T.L. Annual convention. At Bruhl.
June 7-11.—L.R.T.L. Visits to Ruhr tramways systems.
June 8.—L.R.T.L. F. K. Farrell, "The Bielefeld Tramways." 153 Drummond Street, N.W.1. 7 p.m.
June 9.—Inst C.E Annual general meeting Great George Street, S.W.1. 5.30 p.m.
L.R.T.L. Dr. B. G. Dutton, "Tramways in the Soviet Union." Central Y.M.C.A., Mount Pleasant, Liverpool. 7 p.m.
June 10.—L.R.T.L. P. D. Johnson, "The Blackpool Tramways." St. Clement's Church, Chapeltown Road, Leeds. 7 p.m.
R.C. B. D. J. Walsh, "The Thetford and Watton Railway and its Associates." Royal Scottish Corporation, Fetter Lane, E.C.4. 7 p.m.

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THAMES VANS BY FORD

BRITAIN'S BEST SELLERS—THAMES VANS AND TRUCKS

BUSMEN IN CONFERENCE

The Scarborough Papers Discussed

DISCUSSION at the very successful conference of the Public Transport Association, held last week in Scarborough under the chairmanship of Mr. A. F. R. Carling, was in the main crisp and pointed. Dealing with Mr. R. A. Lovell's paper (summarised in our May 21 issue) Mr. W. M. Little (Edinburgh Corporation Transport) said the operators particularly hoped for liberation on box dimensions. The table in the paper on the number of motor vehicles per mile of road was meaningless, for M1 mileage was given the same value as single-track roads in the far north of Scotland. There was no guide to congestion nor to the free flow capacity of a road. Nor did all vehicles move at the same speed. The present system of regulation was not conducive to technical advance; could there be group certification of new designs at the drawing-board stage? International standards would spread; a careful amalgamation of overseas standards and our own was required.

While appreciating the help and co-operation of the Ministry of Transport, Mr. Donald Stokes (Leyland Motors) stressed the difficulty of dealing in the export and home markets with so many types. In Cuba 8 ft. 2 in. vehicles used streets only 9 ft. wide. Fuel tax was influencing designs; for example, noise reducing injectors cost 5 per cent extra in fuel and so were not adopted. International regulations should be kept on as broad a basis as possible—Continental rules were often not on a practical basis.

Ministerial Viewpoint

At this stage Lord Chesham (a Parliamentary Secretary, Ministry of Transport), congratulated Mr. Lovell on his paper and regretted that although the diesel was here to stay it was incurring disfavour with the public due to maladjustment which produced smoke. Mr. Lovell had been considerably concerned in the preparations for the testing of private vehicles—a contribution to road safety. Whatever was thought of the road programme, it was the biggest the country had ever had. Improved vehicles and roads demanded improved road users. Higher standards of competence were now required, with greater acceptance of discipline. He knew before visiting Scarborough, he added, that the P.T.A. had views on fuel tax; he went on to remind those of the public who charged separate fares for journeys in vehicles not licensed as p.s.v.s that they were committing an offence. The man in the street could not expect to ignore the bus service for long periods and then find it on the odd occasion he needed it.

Mr. S. C. Vince (B.E.T.) alleged the author of the paper was trying to make their flesh creep with the table of vehicle density. Instead of 30 vehicles a mile it should be thought of as 60 yards a vehicle. If buses were kept to 30 m.p.h. road capacity was less than if they were allowed to run at 40 or more. The vehicle owner who seated five passengers abreast knew what his passengers wanted to do and if it helped him to make ends meet, why not? Vehicles had been turned down by examiners on tolerances smaller than the manufacturers allowed in new vehicles. The higher the standing of a company, the higher the standard exacted by the p.s.v. examiner, it seemed to him.

Utility of Longer Bus

Another view on the density table came from Mr. Norman Dean (Yorkshire Traction) who said the 75,000 buses must be compared with eight million other vehicles—otherwise there was only one bus in 100 vehicles. The change to larger dimensions would take 12 years, by which time we ought to have the roads to match. Mr. T. G. Davies (Western Welsh) indicated the utility of a 36 ft. by 8 ft. bus on routes with low bridges; the vehicle might be a little bigger but by avoiding duplication it would actually relieve congestion. Urging the Ministry to consider what was practical in the way of hand brake regulations, Mr. Gordon Parnell (Automotive Products) suggested adoption of a split brake operating layout, with transmission brake for parking, deserved consideration. In his reply Mr. Lovell pointed out that the international committee on braking was to meet here to see how we tackled the problem. Mr. F. K. Pointon (East Midland) mentioned his company's need to replace 53-seat lowbridge double-deckers shortly; if a decision on 36 ft. came quickly a single-decker could be used with the same number of seats, lower initial cost, economy in fuel and the possibility of one-man operation later.

Operating Efficiency

On the second day Mr. H. Bottomley's paper on efficiency (see MODERN TRANSPORT of May 21 for summary) was discussed, the first contributor being Mr. R. C. Moore (Sheffield) who thought the conservatism of approach to the larger vehicle a sad reflection. To use three 80-seat buses in lieu of four 60-seat buses in the peak and at the same time save 25 per cent in costs seemed right. In Sheffield they felt satisfaction with the recent national ruling on standing passengers. Crippling to finances was the time lag between wages increases and the next fares increase; done as quickly as possible by undertaking and traffic commissioners it still took eight weeks in which it had cost £5,000 a week at Sheffield and so showed the value of Mr. Bottomley's maximum rate proposal. The paper had contained a timely condemnation of spurious bonus schemes, but the example given in the paper did not enable an individual employee to do anything to assist and the undertaking was saddled with extra costs for a normal day's work. He preferred an award for years of service to assist in holding staff against the attractions of a five-day week in a factory.

A plea for wider publicity on the economies made by public transport operators was made by Mr. W. Leese (Trent Motor Traction); if it had not been for the economies fares would have been much higher. The economies, in fact, had been passed on to the public. He would support a ceiling rate of fare, but at a higher level than suggested by Mr. Bottomley. There was for each operator an optimum proportion of large double-deckers; in his undertaking there would be 78 forward-entrance 73- or 78-seat buses by August out of 205 double-deckers; the remainder might more attractively be replaced by 127 single-deckers of 36-ft. length which would also be useful for weekend excursions.

Seeking Agreement

The difficulties of reaching agreement on costs and fare levels on joint services were the theme of the contribution of Councillor A. Logan (Manchester), who also mentioned the drawbacks of a universal bonus scheme in a country area where staff were abundant. Alderman J. H. Whitaker (Todmorden) said that 69 per cent of cost of fuel oil was tax; it was monstrous. If operators had to price themselves out of business they would, unfortunately, not be missed until they ceased to run. Mr. G. A. Cherry (Birkenhead) referred to the London Transport use of 64-seat buses and said that the large double-decker at 78 plus five standing gained only 11 over his 64-seat buses plus eight standing. He feared a loss of time on services with the large buses. He thought it cheaper to pay a bonus for attendance than to have a loss of revenue because of a duty not covered.

Mr. S. C. Vince (B.E.T.) said the finest results were obtained from a first-class lubricant with detergent properties. A bigger engine could help to overcome road congestion; the best results would come from travelling at same speed as other road users. He wondered why operators were still interested in composite bodies, and thought that the figure for buildings in the paper was high compared with the Potteries cost of a garage of about £500 a bus housed. Mr. G. W. Battensby (Yorkshire Woollen District) said he was adding to his forward-entrance large-capacity vehicles every year; the conductor could work them quicker and the running time was the same. Mr. Ben Goodfellow (Sheffield United) hoped he would be able to follow the same line as Mr. Bottomley with double-deck coaches—he first put a 40-seat six-wheeled single-decker in Hyde Market Place in 1924.

Exchange Theory for Practice

Allocation of about one-third of a fleet to large-capacity double-deckers was advocated by Mr. A. J. White (Maidstone and District), who trusted that when he had to replace other existing double-deckers the 36-ft. single-decker would be permissible. As far as large-capacity double-deckers were concerned he suggested that Mr. Cherry skipped theorising and tried it. Physical problems in his area might prevent use of the largest vehicles on some routes, said Mr. R. Le Fevre (Halifax Joint Omnibus Committee) but with 30-ft. buses, on which he used jacknife doors for speedy operation, there need be no fear of additional time on journeys. On city or interurban routes the public and staffs soon became accustomed to them. On a steep route with half a mile of 1 in 6½ a high-engine-powered single-decker made an improved time of ¾ min.

Mr. James Amos (Scottish Omnibuses) said there was everything to gain by everyone in the bus business standing foursquare together and he voiced his admiration of the way in which the conference had been run. He hoped the Ministry of Transport would deal with the question of altering regulations quickly and as a whole—not piecemeal. The question of reducing costs was most important to the industry, which must find increased productivity by one means or another—in some cases they could only find sufficient staff by using large-capacity vehicles. Large and small vehicles both had their place; the industry not only wanted larger double-deckers but longer single-deckers. Another need was to pay more attention to scheduling, both vehicles and men.

Practical View on a Bonus

Said Mr. T. P. Sheridan (City of Oxford): "I abhor bonus schemes, but how many of us can say we pay no bonus at all?" If basic rates were raised the bad employee had the benefit as well as the good; if they were going to pay more money in some parts of the country to compete with the motor car industry it might be better to have a man five days out of six rather than not at all.

In the course of his reply Mr. H. Bottomley said that a man absent for a 44-hr. week might cost 66-hr. in pay. While he poured cold water on bonus schemes he did not suggest someone might not make a better one. They arose from the need to compete with factory conditions of employment. In his company drivers and conductors found 72-seat forward-entrance buses easier to work than the old 53-seat rear-entrance lowbridge types. They had saved £500,000 a year by better oil. The cost of buildings (£3,000 a bus) he had quoted included garages, offices and inquiry and booking offices, with bus stations and other fixed equipment.

★

DIESEL EXHAUST PYROMETER

Developed at Watford

A PYROMETER for measuring diesel engine exhaust-gas temperatures at the cylinder outlets or in the exhaust manifold has been developed by Savage and Parsons, Limited, Watford, Herts. It provides a ready means of measuring engine efficiency and is suitable for fitting to any type of diesel engine, whether mobile or stationary, although it will probably prove of greatest benefit in the larger land-based and marine types. The instrument comprises up to eight iron-constantan thermocouples mounted in stainless steel sleeves and a moving-coil meter, designed to withstand vibration, for remote mounting.

The thermocouples are fitted through an entry port in the exhaust manifold and suitable leads connect each thermocouple to the meter, which has eight pairs of terminals moulded into its back, enabling up to eight separate positions to be measured. A nine-position selector switch on the front of the meter allows the operator to select each thermocouple in turn and the temperature can be read directly off the dial. The ninth (off) position puts a short-circuit across the meter. The switch plate is engraved with channel numbers according to the number of thermocouples employed. A zero-adjust button is covered by the selector switch, so that once it has been adjusted for ambient temperature it cannot be tampered with unless the switch is removed. A bi-metal strip incorporated in the meter automatically compensates for changes of ambient temperature once the zero has been set. The dial is scaled for temperature readings from 0 to 1,600 deg. F., with the position of maximum accuracy at 1,200 deg.

The meter can be calibrated for any desired length of 22 s.w.g. lead from the thermocouples, up to 50 yd. In cases where the instrument panel is remote from the engine, longer distances can be covered by using heavy-gauge compensating leads. The Savage and Parsons pyrometer has been accepted by Davey, Paxman and Co., Limited, as standard for use in its larger engines, particularly the YH and YL series.

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LETTER TO THE EDITOR

A London Region of B.R.?

SIR,—I was interested to see a letter in your columns a few weeks ago (MODERN TRANSPORT, March 12) from Mr. Bonnett, suggesting the use of the proposed Victoria tube for main line traffic, because it touches the fringes of a subject which I have thought about for some considerable time. It is very obvious that working railway traffic across the London area over the present routes leaves very much to be desired, adds considerably to transit times, so much so that, in some cases, it is probably the cause of traffic being conveyed by other means to the disadvantage of the railway revenue position and contributing to road congestion. I had not thought of using the proposed new tube, which would be a long-term objective, but rather to use existing or easily adapted facilities to greater advantage. It would seem that one of the biggest obstacles to rational use of London's railway connections is lack of unified management. Before a train can be run agreement has to be reached between the regions and, sometimes, between divisions of regions, each of which tends to view the movement from its own standpoint.

Bold measures are, I think, needed to deal with the problem and I would suggest, in view of the general upheaval in railway organisation which is threatened, the time is ripe to form a new region in the London area and to make some consequential boundary adjustments. The authorities of a region such as this should be able to speak with one voice with regard to both operational and commercial matters. There appear to be unbounded opportunities for the rationalisation of movement, for the unification of cartage and the channelling of parcels and freight traffic to the terminal stations best placed to service it.

Area of New Region

This London Region could be bounded roughly by Walton-on-Naze, Colchester, Bishops Stortford, Hitchin, Luton, Tring, Aylesbury, Princes Risborough, Reading, Farnborough, Aldershot, Guildford and Portsmouth. It might appear that an area described by a circle of about 30 miles radius from London would serve the purpose, but an extension of the area to the coast would minimise interference with the close-knit services based on Liverpool Street and the bulk of those services radiating from the Southern Region London termini which are not, in the true sense, main line services.

One essential is to dissolve the London Transport Executive as at present constituted and to set up a suitable body to run buses alone, leaving the whole of the railways at present under the L.T.E. to be operated and managed by the new authority. Their present administration neutralises the potentialities of the Metropolitan and District lines as all-purpose railways: removed from their present passenger "complex" these railways could be used as valuable connecting links for freight services and main line passenger trains.

Much has been written recently about the Great Central main line (including a letter from my friend Mr. A. F. Wallis) in its relation to other lines and there would seem to be no reason why, after the installation of some up-country connections, traffic from the Midlands and the North should not flow via this route and via the head-on connection through Baker Street in the northern half of the Inner Circle, enabling through trains to be run into Temple Mills, Ripple Lane and Hither Green. An additional connection in the Kings Cross-Farringdon area and the electrification of a short stretch should enable electric traction to be used from, say, Harrow throughout, although the gradients at Holborn and Bow might impose some limitations upon loading. To gain access to Temple Mills via this route it would be necessary only to remove the staff amenities which clutter up the potentially valuable connecting tunnel at Liverpool Street and turn it, once again, into a railway. Having done this, a curve leading south under Smithfield (making use of a tunnel which is believed to exist) would provide a through route from the G.E. and the L.T.S. route to the Southern Region, which would be much better than the present restrictive route via Brunel's tunnel at Wapping. Use of the Earls Court—Putney Bridge route would open up new access to the Southern Region.

Imagination and Initiative

A new body with imagination and initiative could, most probably, put Broad Street Station to better use, resuscitate its apparently moribund approach lines and stations and put a new lease of life into the Tottenham and Hampstead lines, as mentioned by Mr. Crossley in his letter. One other possibility is worthy of special mention (assuming there is no insuperable engineering obstacle), that of linking the Northern City line, which it is thought was built to take full-size rolling stock, to the Waterloo and City line and enlarging the latter and extending it to surface somewhere near Vauxhall, thus creating another through route between north and south.

The use of some of these routes for long-distance main line trains—passenger, freight and parcels—would, naturally, take place outside the passenger peak service periods when there are ample gaps in the passenger service. Some of these projects would entail structural alterations and cost an appreciable sum of money, but I venture to suggest that the gain to the railways as a whole would make them well worth while and the figure involved in carrying them out would be unnoticed against the present astronomical figures of annual deficits.

Naturally there would need to be some safeguard to ensure that main line traffic got an equitable share of the facilities within the London Region, and this might be achieved by a board of management for the proposed London Region, made up of the general managers of the regions abutting on its boundaries.

It would appear to be a corollary to add something about the truncated remains of the Southern Region and, to deal with this, several regional adjustments suggest themselves. Broadly, these could consist of incorporating the remaining Southern lines in the Western Region, moving the boundary of the latter southwards, so as to put the territory from the Princes Risborough—Cheltenham—Gloucester—Hereford—Builth—Aberystwyth line and north thereof into the London Midland Region and, as a final balance, the Eastern Region could take the Midland main line from Luton via Trent to Sheffield. Advantages accruing from such an alteration would include having the complex Birmingham area under one management and would also have advantages in the Nottingham and Leicester areas. In this way there would be no more regions than at present. My proposals may appear revolutionary and may even appear harebrained, but I think the present parlous situation in the London area calls for some really extraordinary measure.—Yours faithfully,

FRANK E. WILSON.
Grad. Inst.T.

33 Mount Crescent,
Brentwood, Essex.

The Editor is always glad to receive letters from readers on subjects germane to the transport industry, but these should be written as concisely as possible. The opinions expressed therein must not, however, be regarded as having editorial endorsement. Where correspondents desire to use a nom-de-plume it is essential that the Editor should be informed of the name and full address of the writer as indication of good faith.

STC AND RAILWAY MODERNISATION

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STC supply many different types of cable and multi-circuit transmission equipment for Railway Communications.

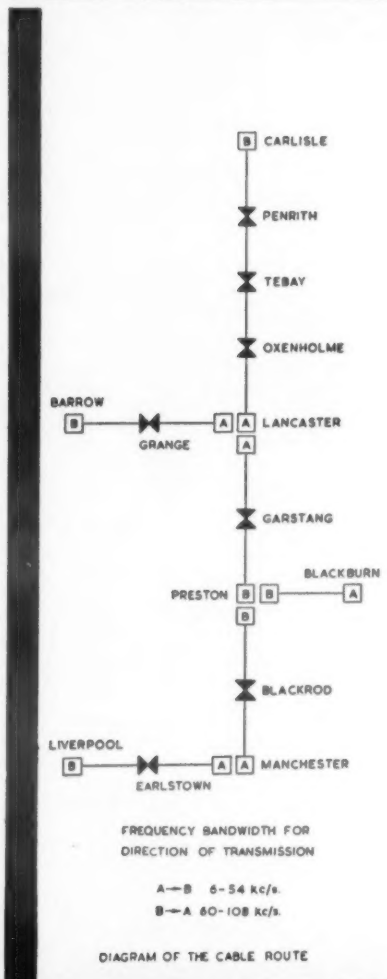
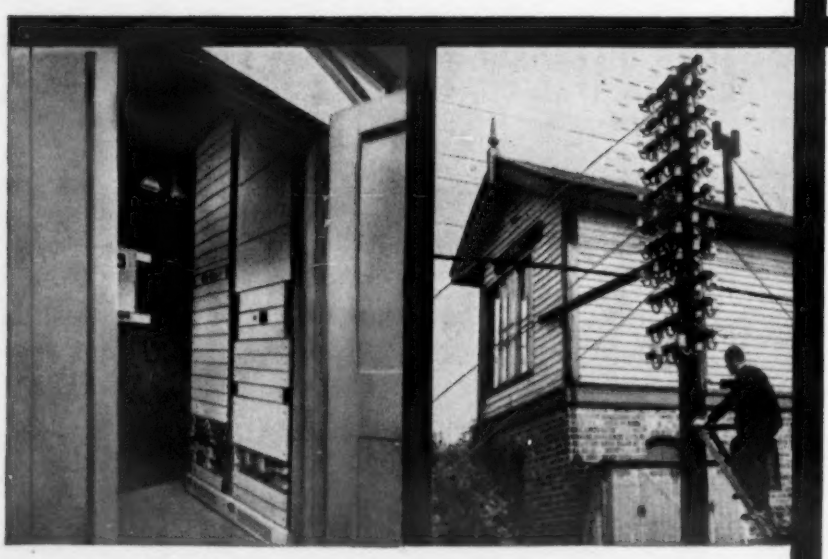


DIAGRAM OF THE CABLE ROUTE



RIGHT: STC Engineer inspecting a 1 quad carrier cable installation on British Railways Manchester-Carlisle line.

LEFT: STC unattended repeater equipment at Grange-Over-Sands.

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THE DELIVERY DRIVER

His World and Work

THE driver of the delivery vehicle, wholesale or retail, held the centre of the stage in a conference organised by the Industrial Welfare Society in London on Tuesday this week for transport, dispatch and personnel managers. So great was the interest evinced in this that all accommodation was booked up and it is being repeated on Monday next (May 30). There are estimated to be about 300,000 vanmen and delivery salesmen in the U.K. and the conference was concerned with their training and welfare.

Mr. R. P. Block, managing director of Blox Services, Limited, Morden, the contract-hire specialist, placed driver selection uppermost in his contribution. The salesman and the driver, he stressed, were two separate identities. In the case of the driver-salesman the salesman element is usually paramount. If he was an indifferent driver he could still get by as a good salesman. But this, Mr. Block observed, could be a very costly way of employing salesmen.

Presenting the Job to Newcomers

How many employers waited until a vacancy loomed up before recruiting a new driver? They should be advertising in advance for the sort of driver who would suit the particular organisation, so that he could be selected "in the cool of the hour" instead of the "heat of the moment." Again, how much was a prospective driver told of his new job by the employer? Put your cards on the table, was his advice—for example, if there was no overtime authorised be frank about it. Measure the work content of the day and then you could let the driver know what he could expect. Unless you did this the driver would make up his own mind what his pay packet ought to contain. Other things were that there must be reasonable meal breaks allowed and the driver ought to know whether he was expected to clean his vehicle—and if he was going to be given proper facilities.

Little thought was given to the extra pressure on distribution when sales campaigns were planned. Distribution was left in the hands of the transport manager, but how could there be an efficient schedule in those circumstances and how could the cost of it be assessed in advance? Turning to aids for the driver, Mr. Block instanced route advice, maps, and guidance on when rest periods should be taken. There should be notices in the depot to bring to the attention of the driver information he might not otherwise see.

Incentives had multiplied—now we had them for such things as cash collection and for introducing new customers, things which once were regarded as part of the duty of a salesman. Was not an adequate basic wage rate a better proposition? In a period of full employment the art of management came into its own and the problems he had outlined were a challenge to them all.

Ambassador-at-Large

A delivery driver *is* the firm to the majority of his customers, because he was the only image they had of his employer, said Mr. E. W. Bowling, education and welfare officer of United Dairies, Limited. With 3,300 electric delivery round trucks and 2,200 motor vehicles, United Dairies has both drivers and driver-salesmen on its payroll. The effectiveness of the retail roundsman said the speaker depended on (a) how he appeared, (b) how he acted, and (c) how he spoke—to his customers and of his company. A good appearance, in his experience, was best achieved by the loan of uniforms, where the driver contributed towards their cost and upkeep—only 25 per cent of men were prepared to buy their uniforms. He touched on the psychological value of keeping vehicle cabs tidy and suggested that a large mirror somewhere in the depot might have a similar effect on personnel. It could have a message beneath it—"This is how the public sees you."

Short Training Courses

Under the second heading bad driving instantly conveyed a bad impression of the company; as to verbal contacts, Mr. Bowling said that a salesman should have to deal only with minor complaints from customers. He endorsed the value of the tape-recorder as a tool in speech training. If an intensive period of driver training on the various aspects of his job was not feasible a one-day course could be an effective substitute. In United Dairies they gave them after the man had been on the street for three to six months and had already gained basic experience. They were so popular that men with 20 years' service had asked to be allowed to participate. Plenty of visual aids were essential in these courses, and notes of what was said should be given to every man to take away with him.

There were three essentials which had been laid down for management in the sphere of human relationships: (a) the manager must believe that good relations were an end in themselves, (b) he must be able to recruit the right man for the job, (c) he must ensure that the man achieved as much satisfaction as is possible from his work—opportunity, sense of belonging, etc.

The information service of the Industrial Welfare Society has available an exterior bibliography under the headings of labour relations, wages and conditions of employment, training and education, amenities and welfare, and allied subjects.

The Coil Spring Federation Research Organisation, which recently operated new laboratories at Sheffield (MODERN TRANSPORT, March 26), has appointed an industrial liaison officer, whose job will be to improve the lines of communication between the laboratory, the spring-making industry and user industries.

Toledo Woodhead Springs, Limited, has acquired the freehold, plant and inventory of the light coil spring section of John Spencer and Sons (1928), Limited. A new company has been formed and the light coil spring business will now be carried on as an entirely separate concern, under the style of John Spencers (Light Springs), Limited, the directors being Mr. Frank Woodhead and Mr. Harry Spittlehouse.

Richard Costain, Limited, and William Press and Son, Limited, have formed two companies, Costain and Press (Overseas Services), Limited, and Costain and Press (Overseas), Limited, with registered offices at 111 Westminster Bridge Road, London, S.E.1, to undertake constructional projects in all parts of the world. The civil engineering and building experience of Richard Costain allied to the mechanical engineering and pipeline construction experience of William Press will offer greater facilities for constructional projects for the oil and chemical industries.

NEW W.R. MARSHALLING YARD AT MARGAM

Fully Automatic Operation

3—TELECOMMUNICATIONS AND POWER NEEDS*

TRACK circuits in the reception sidings and associated lines of the new Margam marshalling yard are of the standard d.c. pattern with 9-ohm relays of the plug-in type housed in steel apparatus cases alongside the track. Miniature pattern line relays are used in the relay room at the control tower. Track circuits between the hump summit and the fouling point in the sorting sidings are of the d.c. normally de-energised pattern with type A relays housed in the relay room, giving high speed operation. For the setting of the standage store for each siding, a.c. normally de-energised track circuits are employed, as these enable longer sections to be used than would be possible with the d.c. type. A full-wave bridge rectifier with d.c. relay is provided in the relay room and a.c. is fed out to the track circuit through an auto transformer housed in a convenient lineside apparatus case.

Running signals are of the multi-unit short range pattern, and ground shunting signals are of the position light type. Stencil type route indicators are provided where necessary. The humping signal comprises a line of three lunar white lights for each indication. The illumination of three lights horizontally indicates "stop," three lights at an angle of 45 deg. indicates "hump slow" and three lights arranged vertically, "hump normal."

Sorting sidings at Margam viewed from the hump

MAIN CONTRACTORS

Sir Robert McAlpine (South Wales), Limited (main contractor)	Earthworks, permanent way, bridgeworks, drainage, fencing, amenity blocks and signalbox.
John Morgan, Limited	Control tower.
Robert M. Douglas, Limited	Earthworks and permanent way
British Insulated Callenders Construction Co., Limited	Main electrical contractor
Lee Beesley and Co., Limited	Internal installations in control tower and yard buildings.
Metropolitan-Vickers—G.R.S. Limited (now Associated Electrical Industries—G.R.S. Limited)	Signalling equipment and retarders.
Pye Telecommunications, Limited	Radio equipment.
Reliance Telephone Co., Limited	Automatic telephone exchange.
British Insulated Callenders Cables, Limited.	Signalling cables.

Cab Signalling

Instead of repeating the humping signal at intervals all along the reception sidings, as has been usual practice, a replica of the humping signal is provided in the cab of each diesel shunting locomotive employed on humping duties. This is operated by superimposing a.c. of several hundred cycles per sec. over the normal d.c. track circuit, and mounting inductor coils at each corner of the shunting locomotive to detect the current flowing in the rail. The induced current is then amplified on the locomotive and made to operate the humping signal mounted in the driver's cab. Two codes of different frequencies are used; one for "hump normal," and one for "hump slow." Absence of received code is made to indicate "stop."

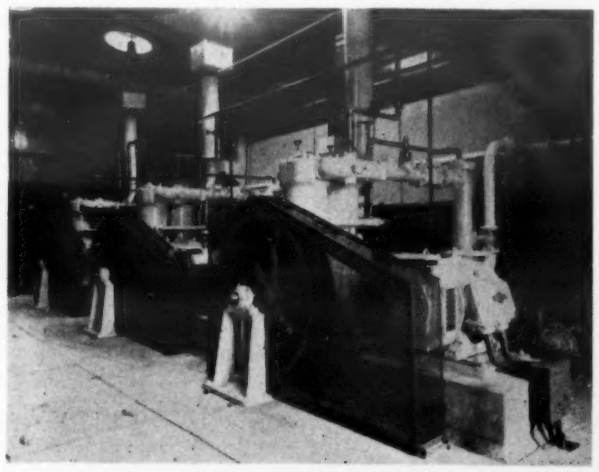
In addition, an audible warning of short duration is sounded upon each change of aspect, thus attracting the driver's immediate attention. When the humping signal is off, the requisite code is superimposed on all track circuits from the hump summit to the far end of the reception siding from which the train is signalled. Absence of code on the other reception sidings would ensure that a second locomotive on an adjacent track could only receive a "stop" indication whilst the first was humping normally.

Telecommunications

Telephone communication within the marshalling yard is provided by a 60-line automatic telephone exchange, giving access to the main railway trunk network through the switchboard at Port Talbot. In addition to the shunter's lightweight transmitter already mentioned, two-way radio communication is provided between the diesel shunting locomotives and the panel operators in the control tower, or the sorting sidings inspector at the west end of the yard, on two independent channels. Loudspeaker systems enable the staff in the traffic office or panel operators in the control tower to speak to staff in the reception sidings or the east end of the sorting sidings, and also the signalman at Sorting Sidings signalbox to speak to staff at the west end of the yard layout. Microphones are provided at strategic points in the sidings for return communication from outdoor staff as necessary.

The compressor plant consists of three electrically-driven compressors each capable of delivering 300 cu. ft. of free air per min. at 100 lb./sq. in. The compressors are automatically controlled by pressure switches, and under normal operating conditions either one or two compressors will run depending on the demand for compressed air. The third compressor is intended as a stand-by machine, but it will also come into use automatically if the air pressure drops to an exceptionally low value. A selector switch is provided to enable the machines in work and on stand-by to be varied in rotation. The compressed air from each compressor is taken through a separate after-cooler and is then fed into two air receivers at the end of the compressor room. Stop valves and by-passes are provided so that any main item of equipment can be taken out of service without interrupting the air supply to the retarders.

A connection is made to the high pressure system to feed through a pressure reducing valve the low pressure system for point operation. This system operates at 40 lb. per sq. in. and a further two receivers for this system are provided at the end of the compressor room.



The three Broomwade electrically driven compressors

Electric Power

Mains electricity is supplied at 11,000 volts from the Steel Company of Wales to a 600 kVA substation adjacent to the control tower, and to a 400 kVA substation at the west end of the sorting sidings. The output is the standard three-phase 415-240 volts on the four wire system. In the event of a mains power failure a stand-by supply sufficient to enable normal working to continue is automatically made available. The source of power is a Ruston Paxman 8RPH diesel engine of 366 b.h.p. which is direct-coupled to a Metropolitan-Vickers three-phase 415-volt 250 kVA alternator with exciter. The output of the alternator is controlled by a switchboard which also embodies the control gear for automatically starting the engine upon power failure. The automatic control is arranged to change over to the stand-by supply if the mains voltage drops by more than 10 per cent. When this happens an audible alarm sounds at the control panel, and this can be stopped by turning a switch to the "stand-by" position. The change back to mains supply when this again becomes available is done manually, and the two supplies can be synchronised momentarily to avoid interrupting the supply during this operation.

The total electrical loading represented by the lighting installation of the yard and its grounds is approximately 300 kW and included in this figure are 216 by 100-watt Duoflux lighting fittings which are used to floodlight the working areas of the yard proper. These flood-lighting fittings are mounted at 55 ft. above ground level on 99 tubular steel towers and are of two types. These are 63 towers having triangular bases 2 ft. 6 in. per side, for use in positions where sufficient clearance is available, and 36 towers having 1 ft. 6 in. square bases where space between tracks is severely restricted. The square towers were specially designed for the Margam marshalling yard, as were the top platforms for all the towers. These platforms are provided with vertical tubes on which are mounted the lighting fittings, and by the removal of a taper pin, can be rotated, thereby enabling the lighting

(*Continued on page* 18)

* No. 2 appeared May 7.

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R.H.A. ANNUAL DINNER

Road and Rail Policy

BROADMINDED DECISIONS URGED

PRESIDING at the annual dinner of the Road Haulage Association at Grosvenor House, Park Lane, on Wednesday last week, the national chairman, Mr. R. N. Ingram, who was concluding his two-year term of office, expressed the hope that whatever the advice proffered by the special advisory group on the British Transport Commission, the Government would consider it in the wider context of the transport system as a whole. There must be "no further misguided attempts to bolster up the railways by suppressing the activities of the providers of transport." The Government had a duty towards the individual and a duty towards the community in general.

Mr. Ingram said they could congratulate the Minister of Transport on his energy and determination but when it came down to specific treatment it was only rarely that the road haulage industry had anything for which to thank any government. "I suppose," he went on, "the rot set in round about 1930, just when our industry was beginning to emerge as a recognisable identity. The obstructions we met were the first barriers of railway protection erected in the form of a licensing system which tied us first of all to claimed tonnage, and thereafter to a series of battles with our competitors in the traffic courts every time we wanted to add to our fleets.

Legislative Morass

"In addition to this we were subject to a mass of legislation governing our activities at every turn. There are limits on the size and shape of our vehicles, on the speed at which they can travel, on the hours of drivers, on the records that must be kept. It would take me too long to go through the whole list, but I can sum it up by saying that the new Road Traffic Act which brings together under one cover much of the legislation passed before and since the war, runs to no less than 271 sections and 20 schedules, occupies 236 pages—and costs 10s. 6d. It is only a part of transport legislation and it is only a small part of the story.

"Soon after the war, as if we were not handicapped enough, the Labour Government decided to nationalise several of us and restrict the rest by and large to a radius of operation of 25 miles. It is true that the next government restored our freedom and introduced a measure of denationalisation. We shall always be very grateful for this. The Government was only doing the obviously sensible thing, but one cannot always rely upon governments even doing this.

"In this outline of some of our main difficulties I must not forget the very high rate of taxation we have to pay, for which we receive insufficient return in the way of new roads and improvement of the old roads. All in all, we have one claim to fame that nobody would be very keen to take from us; among the industries of this country we must be by far the most hamstrung, the most regulated, and the most heavily taxed of all, as well as finding ourselves from time to time mixed up with party politics much against our will.

"If one goes to the other end of the scale and looks for the industry that is the most protected and the least heavily taxed, one is very likely to choose the railways. The railways are the sick man of transport, but they can hardly complain that they have not been given enough nourishment and restoratives. They have been the principal beneficiaries of the welfare state as far as transport is concerned. They have been let off scot-free from such things as fuel tax on the diesel oil of which they are making increasing use. They have been put under a convalescent scheme that may cost us taxpayers at least £1,600 million before it comes to an end.

What the Chancellor Said

"Not long ago I should have been told that the money the Government are giving the railways is only intended as a loan. This argument has been weakened, if not destroyed, by the statement of the Chancellor of the Exchequer in his Budget speech that 'the prospects of the railways and the Commission are not now such as to justify the continued financing of the deficit by repayable advances'.

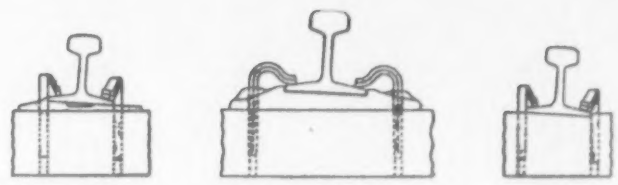
"It is our sincere hope that the railways will ultimately be restored to health, though it is difficult to see how this can happen without some pretty ruthless pruning and streamlining. We fear that they may be supported to the detriment of the road industry. There are some things that the railways can still do perhaps better than anybody else in certain circumstances. These circumstances must be identified and exploited, but before these processes begin there ought to be made a far more serious inquiry than hitherto into the comparative costs of passenger and goods by rail. This is one thing that might well be considered by the special advisory group."

Government and Road Haulage

Mr. John Hay, Joint Parliamentary Secretary to the Ministry of Transport, responded to the toast "The Guests" which Mr. Ingram had proposed. He prefaced his remarks, which were largely a review of road progress, by saying that on the railway problem they were not yet in a position to forecast the future. The special advisory group on the Commission was hard at work. "I know that our idea of getting advice on the detailed application of Government policy towards the railways from a group of businessmen with wide experience of the organisational problems of large-scale industry is a sensible approach which will commend itself to those here present." It was hardly surprising that the R.H.A. had not delayed in putting before the Minister its views about the future of the railways; they had been brought to the attention of Sir Ivan Stedeford's group.

The Government's attitude towards the road haulage industry was this. They had worked together against the threat of nationalisation of road haulage and won that battle. Now they must show that they were right to win it. "What the country needs of us, and has a right to expect, is a vigorous and efficient road haulage industry. Much of what is needed can be provided by you and you alone. I have no doubts myself that you will prove as fully equal to the task in the future as you have been in the past."

ELASTIC RAIL SPIKES



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Transport Management Topics

(*Continued from page 3*)

of various kinds at the lowest real cost. The Government of the day has made it clear that transport is not a social service. If there are circumstances under which certain traffics or sections of the community are to be provided with transport at less than cost in the national interest, and if commercially unnecessary facilities have to be maintained for strategic reasons, then it is the taxpayers at large who should foot the bill.

The Modernisation Plan

Railwaymen still seem to pin their hopes on the modernisation plan and claim that it will eventually make them self-supporting, in spite of its rising capital cost. "While I wish them well, frankly their continued optimism surprises me. I must confess that from the start I have never rated the public's chances of getting any return on its money as very high. Now with £40 million or more per annum that will have to be found for higher wages as a result of the Guillebaud report the chances seem more remote than ever. Clearly modernisation on its own is not going to be enough and a complete reshaping is necessary in which the system is reduced to those facilities which stand a reasonable chance of paying their way. This reshaping has got to be something more than the closing of branch lines and stations here and there. It must be more drastic than that and there will have to be an equally drastic writing down of capital.

"If we are agreed that our national prosperity depends on cheap and efficient transport, then the manufacturer who plans his production and distribution methods with a view to keeping his own transport costs as low as possible must be making his contribution towards minimising the total cost to industry at large and to the community. Surely it is this which, in the long run, is in the true national interest?" said Mr. Carey.

Operational Research

In what was intended to be no more than an introduction to the application of analytical methods to some transport problems, Mr. H. R. Watkins, head of the operational research group of Shell-Mex and B.P., Limited, proved an entertaining lecturer. It was pointed out that this was hardly a "do-it-yourself" sphere since a knowledge of higher mathematics was essential!

As in other fields of management, he said, many transport problems to be faced are complex and involve catering for the effect which chance may have. For example, in studying the number of rail wagons to be held at a point in order to run with a known level of assurance of meeting the demand, we may easily be able to establish the average number of wagons dispatched daily and the average length of time a wagon is away from its base, but this is not enough information to give us a sufficiently accurate answer. We are also concerned with variations about these average values.

Previous speakers had referred to the part which operational research might be able to play in such problems, but he had chosen the title of his talk deliberately to exclude the words "operational research" in order to concentrate on what is meant by this approach rather than to be concerned with what it may be called.

The basis of Mr. Watkins's paper was the provision of information for the manager to be used in forming his judgments. Whether this assistance is forthcoming from within the transport group itself, or whether from outside—possibly from an advisory group of services which include such aids as work study, operational research, etc.—depends on the organisation and the size of the enterprise itself. He described a few examples of how such analyses can help. The dangers of preventing specific examples are, first, that there may be a tendency to look upon this approach as a bag of techniques waiting for applications, and, secondly, that one may concentrate too much on the detail of individual examples. It was necessary to make allowance for these two points.

Mr. Watkins also demonstrated the use of sampling theory in determining the quantity of facilities required to service aircraft grouped in five areas at an airport, the number requiring service varying widely in each area from time to time. Following this, what is known as a "transportation problem" was touched upon—how the output from a number of sources can be allocated to a number of reception points in a way which will give the pattern for minimum distribution cost. The theory applied to the "queueing problem" was explained. Such a problem might exist at a service station or booking office, with customers and staff waiting in turn, time and money being wasted. Finally, where even pure mathematics cannot help there is always the simulation method where, for example, it is desired to know the probable pattern of events in a warehouse receiving two sizes of lorry loaded with any of five different products.

The impressions gained by those participating were neatly summed up thus by the chairman: "It's nice to know, even if you *are* doing things the best way," and again (quoting Kelvin), "unless you can measure a thing you can make no progress."

The Michelin branch office and depot in Liverpool is now established in a new building at 57 Hill Street, Liverpool, 8 (tel.: Royal 5112). It serves Merseyside, Caernarvon, Flintshire, Denbighshire, Merioneth, the Isle of Man and parts of Cheshire and Lancashire.

The Manchester depot of Pritchett and Gold and E.P.S. Co., Limited (Dagenite batteries) has been moved to larger premises at 17 Rainforth Street, Longsight, Manchester, 13 (Tel. Rusholme 1551). The new depot premises will provide improved facilities both for customers and staff.

COMPANY MEETING

BEYER, PEACOCK & CO. LTD.

(Locomotive Builders and General Engineers)

PERIOD OF REORGANISATION

THE annual general meeting of Beyer, Peacock and Co., Limited, was held on May 25 in London, Mr. Harold Wilmot, C.B.E. (Chairman and Managing Director) presiding.

The following is an extract from his circulated review:

The locomotive factory at Gorton entered the period I mentioned in my last review. In the long-term interests of the shareholders it was imperative to seize the right moment to embark on a major reorganisation of the factory which, in addition to retaining a Beyer-Garratt potential, would ensure conditions for the economic production of locomotive types other than steam. This reorganisation started in July, 1959, and will be complete in the next few months. Your Board are convinced that the Manchester locomotive factory will then be entirely suitable for the large-scale production of main-line locomotives of all modern types. The prospect of keeping these facilities reasonably occupied for the next few years would appear promising. By our next Annual General Meeting I hope to be able to report a steady flow of diesel-powered locomotives from the reorganised works. Our latest estimates indicate that the capital costs involved will be reasonable and well within the financing capabilities of the Company.

Your Board have been occupied in the task of consolidating the Group and turning it into a Holding Company type of structure as indicated in my last review. The Holding Company exercise is now complete in all its major aspects and the accounts are presented in the appropriate form. The Holding Company Board is already conscious of benefits which will flow from the new organisation. I have personally relinquished a number of appointments in Subsidiary Companies—only retaining those with immediate problems or special temporary difficulties. Younger executives have been appointed to a number of key positions, and I have every confidence that this general move is in the best interests of the proprietors.

Anti-Attrition Metal Co.

The only Subsidiary which proved more intractable than I anticipated a year ago is Anti-Attrition Metal Co., Limited, which made a large loss in 1959 (£95,686). This loss has been taken up in the consolidated accounts. I believe, however, that the reorganisation of management at Maidenhead and of the production equipment of that factory, will help towards a more effective selling effort and better financial results. Modest profits are already being made, and our weekly and monthly figures encourage us to hope for steady improvement.

As there is an outside interest in Anti-Attrition Metal Co., Limited, amounting to 12½ per cent of the equity of that Subsidiary your Board have decided that a subvention payment is inappropriate as that would be in effect a subsidy by the shareholders of the Holding Company to the minority shareholders of that Subsidiary. The result from an accounting point of view is that taxation chargeable for 1959 is greater than it would otherwise have been, but a tax loss is carried forward and will mean tax free profits in Anti-Attrition Metal Co., Limited, for future accounts. To this extent and for those reasons the results of the Holding Company after tax appear to be less favourable than they are in reality.

All the other main producing Subsidiaries made profits to an extent we consider not unreasonable in a year of considerable recession for our types of product. In every case our forecasts for 1960 show improvements both in turnover and in total profits.

I would refer shareholders to the paragraph on dividends and dividend policy in my last review. The conditions there outlined have in the view of your Board been met. In the first place the figures for 1959 are somewhat better than forecast a year ago. To undertake a change-over from Steam to other forms of main-line rail traction and to avoid during such a period a major loss on working may reasonably be regarded as exceptional in the locomotive industry. In the second place our forecasts for 1960, made on our usual lines, lead us to the expectation that the condition outlined last year—a profit of at least 10 per cent in 1960—will be achieved. Your Board is, therefore, proposing the promised final dividend for 1959 of 12 per cent.

Mr. James Hadfield, M.B.E., has recently been appointed Deputy Managing Director. Mr. Hadfield has served Beyer, Peacock and Co., Limited, in various capacities over a period of 36 years, and in addition has held a number of appointments in the Subsidiary Companies. I know of no one better fitted for the wider responsibilities he has assumed.

The report and accounts were adopted.

OFFICIAL NOTICE ANNOUNCEMENTS

Official Notices, Tenders, and other announcements, can be accepted up to first post Tuesday morning for insertion in the current week's issue.
Rate: 48s. per single column inch.

OFFICIAL NOTICES
MODERN TRANSPORT, 3-16 WOBURN PLACE, LONDON, W.C.1

IMPORTANT CONTRACTS

More Main-Line Diesels for B.R.

FURTHER orders for main-line diesel locomotives placed over recent months by the British Transport Commission and announced in the recent statement of the expanding modernisation programme include those for another 190 locomotives from the English Electric Co., Limited, and one for 21 locomotives from the Birmingham Railway Carriage and Wagon Co., Limited. The orders for English Electric, worth some £15½ million, are for 78 Type 1 1,000-h.p., 37 Type 3 1,750-h.p. and 75 Type 4 2,000-h.p. units, which will be built within the English Electric group at Preston, Newton-le-Willows (Vulcan) and Darlington (Robert Stephenson and Hawthorns). The order with Birmingham Railway Carriage and Wagon is for a further 21 Type 3 locomotives (making a total of 98 from this manufacturer) of the Birmingham-Sulzer-Crompton design, like those ordered earlier, for use in the Southern Region. Power is by the Sulzer 1,550-b.h.p. diesel engine, with Crompton Parkinson electrical equipment.

D.B. Gearboxes for B.M.M.O.

The Birmingham and Midland Motor Omnibus Co., Limited, has placed orders for 233 gearboxes worth more than £40,000 with the David Brown Automobile Gearbox Division, for equipping single-deck S14 buses and C5 high-speed coaches which B.M.M.O. plans to build at Edgbaston next year. The two types of vehicle will be fitted with four- and five-speed gearboxes respectively, both of joint B.M.M.O.-David Brown design.

Perkins Engines for Swedish Harvester

A.B. Westeråsmaskiner, the Swedish farm machinery manufacturer, is to fit a British diesel engine in a self-propelled combine harvester and has placed an initial order worth £78,000 with Perkins Engines, Limited, Peterborough, for the four-cylinder 1.6-litre Perkins Four 99 unit. A.B. Joh. Thermaenius and Son, Hallsberg, has been offering the Perkins unit for some time in its combine harvester.

Rubber Processing Machinery Agreement

Baker Perkins, Limited, Peterborough, has concluded an agreement with the German firms of Leonh Herbert and Paul Troester, which allows the British firm to manufacture and sell a complete range of rubber processing and moulding machinery previously made in Germany. Herbert specialises in tyre building and curing machinery and controls designs of bladder-type and mechanically operated tyre curing presses. Troester supplies standard rubber processing equipment, including mills, calenders and extruders.

Marquis Tender for Grain Refinery

A third Merryweather Marquis (A.E.C. diesel) appliance has been added to the fire-fighting fleet of the B.P. Refinery on the Isle of Grain, which already has two Marquis foam tenders. The new machine is an emergency tender provided with radio-telephone and workshop equipment, two search-lights and first-aid watertanks and five pumps.

Hymatic Air Starting in Deltics

Napier Deltic opposed-piston two-stroke high-speed diesel engines, which have cylinders arranged in three banks, use direct-injection high-pressure air starting systems manufactured by the Hymatic Engineering Co., Limited, Redditch, Worcs. The high torque produced by the Hymatic system gives rapid acceleration to a speed when fuel can be introduced and the engine will fire. The company has developed a compressor, a distributor and cylinder head valves for both 9- and 18-cylinder versions of the Napier Deltic.

Scottish Region Contracts

The following contracts have been placed by the Scottish Region of British Railways:

John Best (Contractors), Limited, Edinburgh, for construction of signalbox, substation and control towers at Millerhill new marshalling yard, Edinburgh.

Taylor and Hubbard, Limited, Leicester, for two 10-ton diesel-electric rail travelling cranes.

The Lanarkshire Welding Co., Limited, Wishaw, for reconstruction of new steel bridge superstructure at Shawlands.

James Miller and Partners, Limited, Edinburgh, for reconstruction of bridge at Broomhouse Road, Edinburgh, and renewal of superstructure of bridge at Broomieknowe Road, Burnside.

P. and W. MacLellan, Limited, Glasgow, for part reconstruction of bridge at Airdrie goods station.

Don (Contractors), Limited, Inverurie, for diesel maintenance facilities at Inverurie.

Buses in Demand at Home

Large-scale investment in new buses continues and among British operators who have placed orders with Leyland Motors, Limited, during the past five weeks to a total value of over £500,000 are Ribble (50 Titan, 20 Leopard and five Atlantean), W. C. Standerwick (15 Leopard), Newcastle upon Tyne (25 Atlantean), Potteries (15 Atlantean), Yorkshire Traction (11 Titan and six Tiger Cub) and Rhondda (five Tiger Cub).

North Eastern Region Contracts

Recent contracts placed by the North Eastern Region of British Railways include:

Wellerman Bros., Limited, Sheffield, for strengthening Bothal Viaduct, near Morpeth.

The General Electric Co., Limited, London, W.C.2, for two steel gantries to support lighting at English Street goods depot, Hull.

R. Costain, Limited, Newcastle, for foundations, etc., for carriage washing machines at South Gosforth and at Heaton.

Dorman Long, Limited, Middlesbrough, for steelwork for the road bridge at Beningbrough.

The Triton Engineering Co., Limited, Croydon, for 11 vibrating tables for the central concrete depot, York.

The Liner Concrete Machinery Co., Limited, Gateshead, for four ¾ cu. yd. diesel dumpers.

H. Williams, Limited, Watford, for an Integra system of route relay interlocking, control machine and associated equipment for the signalbox in the South Yard, York.

Wright Anderson and Co., Limited, Gateshead, for steelwork for new office block at Paragon Station, Hull.

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MARGAM YARD

(*Continued from page* 15)

fittings to be swung round over the platform and so facilitate cleaning and lamp replacement.

The steel floodlighting towers are finished galvanised with two coats of aluminium paint, special regard to the finish having been paid in view of the prevailing site conditions of strong sand laden winds, and the possibility of rapid erosion of paint work. Each tower is mounted on a 6 ft. cube concrete base designed to suit the load bearing characteristics of the Margam sand. In addition to the steel towers there are approximately 100 standards for the lighting of the various access roadways and secondary parts of the yards. The main yard lighting is controlled from two consoles of the type used for aerodrome runway lighting, and each has a diagrammatic representation of the layout of the lighting points it controls, together with miniature lights to indicate the correct working of the circuits controlled, including those which would be fed by the standby set in the case of the failure of the mains supply.

The whole scheme, which is part of the British Railways modernisation plan, has been developed and directed by Mr. M. G. R. Smith, chief civil engineer, Western Region, Mr. A. W. Woodbridge, formerly signal engineer, W.R., and now chief signal engineer, B.T.C., and Mr. A. A. A. Cardani, who succeeded Mr. Woodbridge.

SHIPPING and SHIPBUILDING

Denny Hovercraft Talks

AFTER persistent reports, William Denny and Brothers, Limited, Dumbarton, has confirmed that it is the Clyde shipbuilding firm in negotiation with Hovercraft Development, Limited, with regard to development and construction of hovercraft. Mr. Graham Denny said that they were interested in the craft for river service, particularly on rivers abroad. Denny and Hovercraft Development, Limited, is now discussing the exploitation of the SR-N1 hovercraft. As announced last week, Vickers, Limited, is to build two prototype craft by agreement with the Hovercraft company.

Greenore Returns to Life

THE port of Greenore, closed since the termination of the Holyhead cargo service 12 years ago, is to be reopened. It will act as the terminal for a container service with Runcorn, which will be initially on a bi-weekly basis. A 150-ton crane is now being erected for this purpose.

Advances in Hull Form

IN its report for 1959, the National Physical Laboratory says that last year six appreciable improvements in ship hull form were achieved which were accepted by the firms concerned. The estimated savings in oil-fuel costs over a period of 20 years, represented by four of these examples, amount to over £300,000.

The P. and O. Museum

ESTABLISHMENT of a museum of shipping and maritime records at 122 Leadenhall Street is a tribute both to the men and to the ships of past generations that have done so much to build up the traditions of the company and of the P. and O. group. The museum is believed to be unique. Vessels are shown in model form or in old photographs. Records of ships and personnel go back as far as 1840.

U.S. Share of Trade

THE United States Secretary of Commerce, Mr. Frederick Mueller, has said that the increasing competitiveness of international trade has made a profound impact on the United States shipping industry, and requires new efforts to strengthen America's maritime position. The National Merchant Marine now carried less than 20 per cent of the United States foreign trade tonnage, a smaller share than at any time since before the 1914-18 war. Ultimately, he said, the solution of United States marine difficulties rested on the ability of its operators to secure cargoes at remunerative rates.

Decline of Coal Trade

COASTWISE coal shipments have dropped since 1957 from 28.7 million tons to 21.8 million tons, said Mr. F. C. Asgill, chairman of the Seaborne Coal Traders' Association, in London. This reduction would continue unless the dual-fired power stations in the south of England, now burning oil, were switched back to coal and unless some of the coal-burning power stations due for construction were sited on the coast. If neither of these two changes were made and if a major gas grid was developed, he estimated that coastwise coal shipments would drop by a further 3 million tons by 1965. There had also been a reduction in the number of coal ships employed by the trade, from 654 vessels in 1957 to 530 at present.

A cross-Channel "air ambulance" service for vehicles which break down beyond local repair when abroad is being put into operation by the Automobile Association this summer, by arrangement with Channel Air Bridge. Last year the A.A. arranged for the return of over 1,000 vehicles from the Continent by sea.

Some synthetic resins and glues now being used increasingly adhere tenaciously to the skin and are difficult to remove from the hands after work. To overcome this problem Rozalex, Limited, has introduced a cream which is claimed rapidly and effectively to remove epoxide, urea-formaldehyde, polyester, polyamide, phenol-formaldehyde, polysulphide, silicone and other synthetic resins from the skin.

★

NEW IDEAS FROM WILLOWBROOK

WILLOWBROOK, LIMITED, has asked us to draw the attention of readers to the fact that the company's advertisement appearing on page 21 of our May 14 issue under the heading "New Ideas from Willowbrook," may be misleading. The installation of the translucent advertisement panel on the offside upper saloon illuminated from behind by concealed fluorescent tubes, as well as the interior fluorescent lighting scheme, was carried out at the request of the Potteries Motor Traction Company to designs prepared by the B.E.T. Federation, Limited, and its associated companies. Willowbrook, Limited, does not, of course, desire to take any of the credit for these developments.

★

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Southdown Motor Services

Southdown Motor Services, Limited, is paying a final dividend of 5 per cent, tax free (6⅔ per cent, less tax). Net profits £276,955 (£214,458) after depreciation of £314,737 (£326,617) and tax of £174,110 (£208,553).

Barr and Wallace Arnold Trust

The dividend on the ordinary and "A" ordinary shares of Barr and Wallace Arnold Trust, Limited, for 1959 is 10 per cent allowing for the two-for-one scrip issue, payable on June 1. Profits were £226,210 (£210,835) before depreciation of £91,206 (£85,961) and tax of £50,599 (£53,194).

Rolls-Royce

Total dividend of Rolls-Royce, Limited, 10 per cent for 1959, is on the capital as increased by the capitalisation of reserves in July, 1959, and the issue of additional workers' (1955) shares, and is equivalent to the distribution of 20 per cent made in respect of 1958. Revenue from all sources was £97,533,321 (£96,277,918) and the profit before taxation £4,876,469 (£4,753,482). Taxation absorbed £2,240,000 (£2,520,000) leaving £2,636,469 (£2,233,482).

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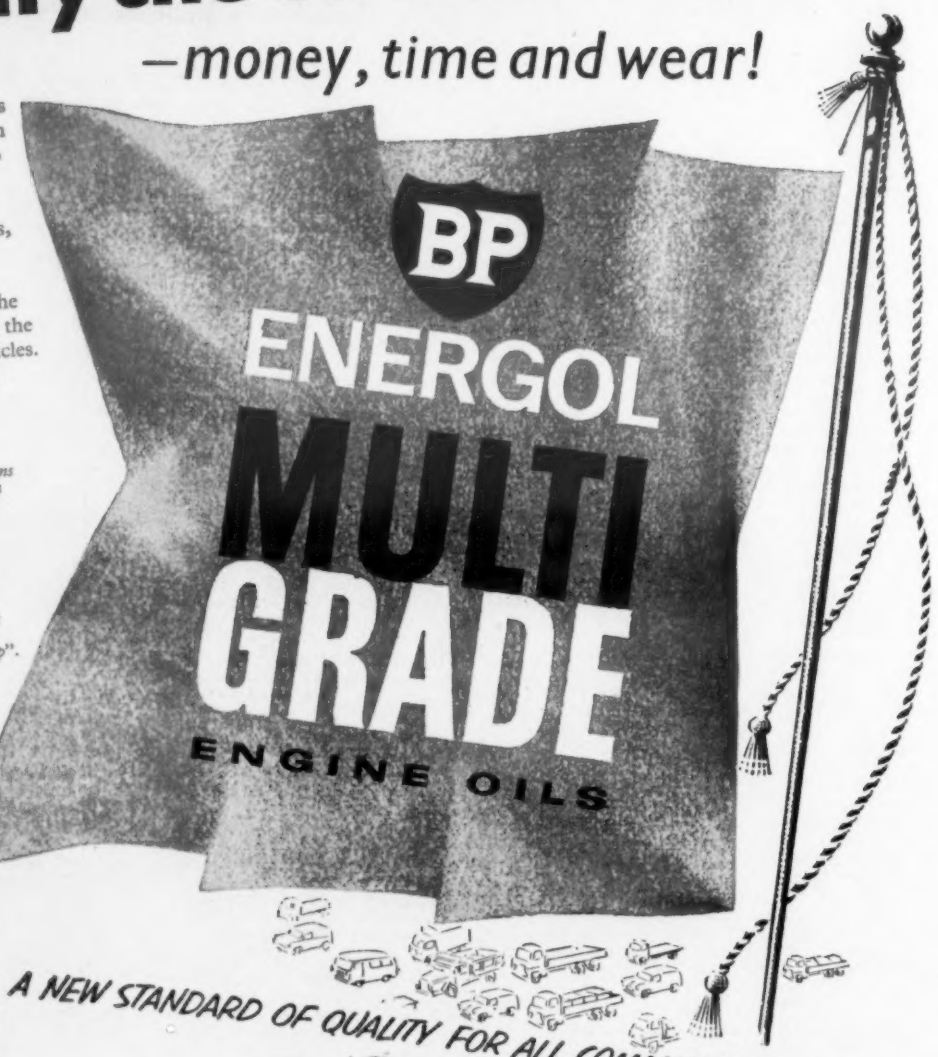

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SOCIAL AND PERSONAL

New R.H.A. Chairman

AT the first meeting of the new national council of the Road Haulage Association on Thursday last week, Mr. Herbert H. Crow, M.Inst.T., was elected national chairman, and the following four vice-chairmen were also elected, viz. Messrs. D. O. Good, J. B. Mitchell, N. T. O'Reilly and J. T. Turner. The first three are re-elections. Mr. Crow is chairman and managing director of the Crow Carrying Co., Limited, Barking, which recently celebrated its 40th birthday. His portrait and biography appeared in our May 7 issue.

* * *

Mr. Patrick Gibson has been made public relations officer for the London Midland and Western Regions in Birmingham.

* * *

The Provincial Insurance Co., Limited, of Kendal, announces that Colonel Sir Ralf Emerson, C.I.E., O.B.E., has joined its London board with effect from June 1. Sir Ralf was previously chairman of the Nigerian Railway Corporation.

* * *

Mr. C. F. Johnson, who has recently retired as director and general manager of the Sunbeam Trolleybus Co., Limited, originally joined the Sunbeam Motor Car Co., Limited, in 1923 as publicity manager and became closely connected

Mr. C. F. Johnson, who recently retired as director and general manager of the Sunbeam Trolleybus Co., Limited, receives a presentation from his colleagues at the hands of Mr. H. Harwood, works manager

with the commercial side of that business when the manufacture of cars was discontinued at Wolverhampton. He has been concerned with the sale of Sunbeam trolleybuses for the past 25 years. Mr. B. Foster, sales manager for Guy passenger vehicles, is now additionally responsible for the sale of Sunbeam trolleybuses.

* * *

We record with regret the death at the age of 67 of Mr. Mark Denne, formerly a director of Lisbon Electric Tramways, Limited.

* * *

Mr. R. A. Beckett, managing director of Beckett, Laycock and Watkinson, Limited, is attending the Canadian Transit Annual Convention, and will visit Beclawat (Canada), Limited.

* * *

Mr. A. M. Todd, district motive power superintendent, Bank Hall, Liverpool, London Midland Region, B.R., has retired. He began his railway career with the former L.N.W.R. as a premium apprentice at Crewe works in 1911.

* * *

Mr. Raymond W. Birch, chairman and managing director of the Potteries Motor Traction Co., Limited, recently presented long service awards to 32 employees, among them the chief engineer, Mr. J. W. Womar. Driver A. E. V. Morgan, aged 64, completed 50 years' service.

* * *

A reception was given by the United Kingdom Railway Advisory Service last week to meet Messrs. Toelgyes and Vaarhegyi, who are, respectively, manager (machinery) and manager (motive power) of the Hungarian State Railways. They have been visiting Britain to study the operation of the larger types of diesel-electric locomotive and they represent the first European railway administration to use U.K.R.A.S.

Mr. A. E. Wright has been appointed London provincial services area manager, B.R.S. (Parcels), Limited.

* * *

Mr. J. J. Maguire has been appointed district estate surveyor, Norwich, Eastern Region, B.R., in succession to Mr. F. Allwright, retired.

* * *

The late Mr. W. J. Everard, a director of F. T. Everard and Sons, Limited, the coastwise shipping company, left £97,889 gross, £53,084 net.

* * *

Mr. D. W. Mansell has been appointed general sales manager, Cummins Engine Co., Limited, at Shotts, Lanarks.

* * *

Mr. Ian Cameron, general manager of the Southampton works, has been appointed a director of John I. Thornycroft and Co., Limited.

* * *

We record with regret the death of Mr. J. C. Fairchild, transport manager of Lytham St. Annes Corporation Transport Department from 1929 to 1946. He was 78.

* * *

We regret to record the death of Mr. O. Strachey, C.B.E., who in a long and very varied life was responsible for work on the East Indian Railway. He was 85.

* * *

Mr. H. J. H. Nethersole, general manager of the English Electric traction department, has been appointed a director of two member companies of the English Electric group—the Vulcan Foundry, Limited, Newton-le-Willows, and Robert Stephenson and Hawthorns, Limited, Darlington.

* * *

The Institut du Transport Aérien has appointed Mr. Joseph Roos to be its chairman, succeeding the late Mr. André Siegfried. Mr. Roos is honorary director of air transport in France and president-director general of the Chausson vehicle business. H.R.H. Prince Bernhard of the Netherlands and Professor T. von Karman have been elected honorary chairmen.

* * *

Mr. R. C. Hiam, O.B.E., formerly general sales manager, has been appointed sales director of tyre replacement sales for the Dunlop Rubber Co., Limited. Mr. Hiam, who is president of the Tyre Manufacturers' Conference, has been with Dunlop for 30 years. He has been in the tyre division since 1947. Because of his wider responsibilities, he will delegate some of his duties to Mr. Bernard Gay, who was appointed sales manager — replacement last year.

Mr. R. C. Hiam

* * *

Arising from the appointment of Mr. F. R. Stockdill, at present chief general accountant in the finance department at the headquarters of the Commission, as assistant general manager in the London Midland Region of British Railways, it has appointed Mr. P. G. James, chief financial officer of the London Transport Executive, as chief accountant. He took up this appointment on May 23. Mr. James, as chief accountant, will have general responsibility for accounting, costing and audit matters. A portrait and biography of Mr. James appears on page 11. Mr. H. E. Osborn, at present designated as chief accountant and financial adviser, will, in future, have the title of financial adviser. The chief accountant, the director of funds and general division, and the director of budgets will report to him.

* * *

The John Morris Memorial Award offered by the British Industrial Truck Association in its second annual competition has been won by Mr. R. J. Bunn, of the materials handling division of the Metal Box Co., Limited. The award covers a two weeks' visit to the seventh annual material handling course at Lake Placid, New York. The title of his paper was "The Industrial Truck or Industrial Necessity" and it was largely based upon experience gained in Metal Box, users of a very wide range of materials handling equipment. Mr. F. W. Thomas, the Express Dairy Co. (London), Limited, and Mr. A. G. Matthews, Hopkinsons, Limited, Huddersfield, were runners-up.

* * *

The British Road Federation has appointed Mr. Alan Havard, A.M.Inst.T., formerly an assistant editor of *Motor Transport*, as its public relations officer. He succeeds Mr. Allan White who has resigned to take up an appointment with the Taylor-Woodrow group.

* * *

Lord Portal of Hungerford has been chosen as chairman of the new British Aircraft Corporation, which represents the merger of English Electric Aviation, Vickers-Armstrongs (Aircraft) and Bristol Aircraft. B.A.C. has also reached agreement for a controlling interest in Hunting Aircraft. The two deputy chairmen of B.A.C. are Major-General Sir Charles Dunphie, chairman of Vickers-Armstrongs (Aircraft), and Mr. George Nelson, chairman of English Electric Aviation. Further details are on page 7.

Mr. Herbert H. Crow, newly-installed chairman of the R.H.A., with his four vice-chairmen, Messrs. J. T. Turner, J. B. Mitchell, D. O. Good and N. T. O'Reilly

Mr. P. Delagrave has been appointed general passenger traffic manager, Canadian National Railways.

* * *

Mr. A. Haworth has been appointed district commercial manager, Dundee, Scottish Region, B.R.

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The annual meeting of the Railway Benevolent Institution will be held at the Railway Clearing House, Eversholt Street, London, N.W.1, on June 24 at 4 p.m.

* * *

We deeply regret to report the sudden death of Mr. L. E. Richards, director and general manager of the Eastern National Omnibus Co., Limited. His death took place in the early morning of Friday last week in hospital following an operation.

* * *

Mr. H. C. Hinder, export sales manager of I.T.D., Limited, has left on a 34-day round-the-world tour. He is meeting the company's many overseas agents and distributors, to set up new agencies where necessary and also to acquire first-hand knowledge of materials handling problems in other countries.

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OFFICIAL NOTICE

COUNTY BOROUGH OF WARRINGTON

TRANSPORT DEPARTMENT

TRAFFIC SUPERINTENDENT

APPLICATIONS are invited by June 8, 1960, from persons thoroughly experienced in the administration of the Traffic Section and in particular in the compilation of duty schedules.

Salary APT. III £880—£1,065. The names of two referees should be given.

Further particulars will be sent on request.

N. McDONALD,
General Manager.

Transport Offices,
Bank Street,
Warrington.

CLASSIFIED ADVERTISEMENT

CLASSIFIED ADVERTISEMENTS should be addressed to THE MANAGER, Classified Advertisements, MODERN TRANSPORT, Russell Court, 3-16 Woburn Place, London, W.C.1.

ACCEPTANCE.—Advertisements can be accepted up to 2.30 p.m. on Monday to ensure insertion in the current week's issue. MODERN TRANSPORT is on Sale every Friday.

SITUATION VACANT

ASSISTANT to the Chief Clerk required by Road Transport Undertaking of large trading organisation in North East Manchester. A good knowledge of accountancy, general office routine, together with the ability to organise and control staff, is essential. A knowledge of the Hollerith system will be an advantage. Superannuation fund, five-day-week in operation. Applications, stating age, experience, qualifications and salary required, to be received not later than June 3, to Box No. 3837, MODERN TRANSPORT, 3-16 Woburn Place, London, W.C.1.

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CITY 3281

LIVERPOOL
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CENTRAL 6386

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Pavilion Building, Pavilion Road, West Bridgford
NOTTINGHAM 88401

REPORTING RAILWAY PROGRESS 3

Farewell to steam—and a fanfare for the diesels. They typify the power behind Britain's second railway age. Everywhere the switch to diesels is progressing fast, for both freight and passenger trains. In some areas they are there to stay; in others they are blazing the trail for electric traction. They represent the cleaner, faster, surer, rail services that are extending over the whole country.

THE DAY OF THE DIESEL

WAY AHEAD The new diesel-hauled Flying Scotsman's headlights – caught in this flash time-exposure in the new Hadley Wood tunnel – thrust like lances towards open country. Throughout British Railways' network, in England, Scotland and Wales, the diesels reach out – already 500 main-line diesel locomotives, 3,000 multiple-unit diesel vehicles, over 1,000 diesel shunters. Diesels on branch, secondary, suburban and inter-city routes; diesel-hauled expresses: London - the Midlands and North West, London - Edinburgh, London - Newcastle, London - Norwich, London - Bristol and the West, Edinburgh - Aberdeen.

▲ **HANDLING FREIGHT** Where smoke and cinders once flew from freight and shunting engines: one of the new electronically-controlled marshalling yards, quieter, cleaner, more efficient. Operated mainly now by diesel locomotives that save labour on maintenance, money on running, time on performance.

▶ **FRONT SEAT** For the driver, more comfort, less strain. For passengers: room with a view, smoother ride, greater comfort, regular timings. There will be 4,600 vehicles for these multiple-unit diesels; already 3,000 in trains of two to nine cars are running . . . part of British Railways' Modernisation Plan.

▲ **WAYSIDE REVOLUTION** Modern comfort glides into a country station: the multiple-unit diesel – powered carriages – that is transforming local rail transport. Progress report: already most local services in Eastern Region all-diesel. Those in North Eastern and Western Regions all-diesel by the end of the year.

▶ **WAY IT'S DONE** Routine check. Button pressed. Train in service. Times have changed. Old engine: time to get steam up, daily oiling, end of run fire raking, watering, coaling. New diesel: cleaner job as these men know, plus 23 hours' action out of 24, more work for everybody's money.

NEXT: STATIONS – THE NEW DEPARTURE

Photographed by John Chillingworth

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